DOCUMENT RESUME

ED 127 877 HE 008 189

AUTHOR Holmstrom, Engin Inel; Knepper, Paula R.
TITLE Four-Year Baccalaureate Completion Rates: A Limited Comparison of Student Success in Private and Public Four-Year Colleges and Universities.
INSTITUTION American Council on Education, Washington, D.C. Policy Analysis Service.
PUB DATE [76]
CONTRACT 300-75-0375
NOTE 87p.

EDRS PRICE MF-$0.83 HC-$4.67 Plus Postage.
DESCRIPTORS *Academic Achievement; Age; *Bachelors Degrees; Bibliographies; College Environment; *College Students; Comparative Analysis; *Educational Benefits; Females; *General Education; *Higher Education; Males; *Private Colleges; Race; State Colleges; Student Characteristics; Tables (Data)

ABSTRACT

Presented is information on the educational process, or success, of students attending private and public institutions. It is assumed that the role played by small private liberal arts colleges can be understood only in the larger context of the total higher education domain, public and private. The criterion of student progress is completion of the baccalaureate within four years after college entry. Baccalaureate completion still stands as a significant indicator of success. The criterion also directs federal concern beyond the initial step of providing equal access to higher education toward the more complex and persistent issue of equalizing educational outcomes. Data for the study comes from the American Council on Education's undergraduate longitudinal file, which consists of information on students surveyed first at the time they entered college as first-time, full-time freshmen in the fall of 1968, and followed up four years later in the fall of 1972. Student characteristics taken into account are sex, race, ability, and income. (Author/KE)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED127877

FOUR-YEAR BACCALAUREATE COMPLETION RATES:

A LIMITED COMPARISON OF STUDENT SUCCESS IN PRIVATE AND PUBLIC FOUR-YEAR COLLEGES AND UNIVERSITIES

Engin Inel Holmstrom

Paula R. Knepper

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY

H2 00 8 189

Policy Analysis Service

American Council on Education

FOUR-YEAR BACCALAUREATE COMPLETION RATES:

A LIMITED COMPARISON OF STUDENT SUCCESS IN PRIVATE AND PUBLIC FOUR-YEAR COLLEGES AND UNIVERSITIES

Engin Inel Holmstrom

Paula R. Knepper

Policy Analysis Service

American Council on Education

This report was done as one part of a study of the private sector of higher education, carried out under USOE Contract 300-75-0375.

Chapter I

Introduction

In the more than two centuries between the founding of Harvard in 1636 and the federal Morrill Land-Grant College Act of 1862, small private liberal arts colleges dominated the American educational scene. Even after the establishment of public institutions, private liberal arts colleges remained leaders by virtue of their responsiveness to the changing needs of the American society and of the example they set for the new public colleges and universities, many of which sought to adopt their collegiate atmosphere and their liberal arts curriculum.

In 1970, there were 691 small private liberal arts colleges, constituting one-fourth of all institutions of higher education and serving about 8 percent of all students (Carnegie Commission on Higher Education, 1973, pp. 6-7). By no means were these institutions a homogeneous group; they varied in admission procedures, students, quality of educational programs and services, and financial resources. Only one-fifth--Liberal Arts Colleges I, as categorized by the Carnegie Commission on Higher Education--seemed to be financially secure; the remaining 544 institutions, particularly those rural ones with little national drawing power that Astin and Lee (1972) labeled "invisible colleges," were suffering deep financial distress (Bowen and Minter, 1975; Lanier and Andersen, 1975). To varying degrees, however, all small private liberal arts colleges share common

problems: soaring costs, inflation, declining growth of enrollments, and fiercer competition from public institutions offering similar programs at lower prices.[1] Many have sought to solve these problems by retrenchments which threaten the quality of education they offer; for instance, they have reduced operations and services, frozen faculty salaries and positions, and increased teaching loads. Others have stiffened their admission criteria, believing that quality is their best weapon in the competition with lower-priced public institutions for students. Many spend increasing proportions of their revenues to recruit and support low-income students.[2] Others are experimenting with new programs and schedules (e.g., vocational courses, more flexible class times to accommodate older or part-time students), practices which could destroy the "liberal arts" and "collegiate" character of these institutions.[3]

What will happen if a sizable number of these liberal arts colleges are forced to close down? Or if, in their

---

[1] Public institutions are not lower-cost but lower-priced: The true costs of educating students in the public institutions are paid by the public through taxes; the students themselves pay a subsidy-lowered price (Silber, 1975).

[2] Smith and Henderson (1976) reported that 673 heavily tuition-dependent private colleges spend, on the average, 167 percent more per FTE student for student aid than they receive in student aid revenues.

[3] For a description of the special characteristics of private liberal arts colleges, see El-Khawas (1976), Astin & Lee (1972), Keeton (1971), Schmidt (1957), and Pace (1974).

efforts to compete with lower-priced public institutions, they lose some of their special characteristics? What should the Federal government do to help maintain this small but important segment of American higher education? The U.S. Office of Education has sponsored a number of studies intended to answer such questions. This report is part of a larger project undertaken by the Policy Analysis Service of the American Council on Education (ACE) to examine the state of private higher education and to present options for Federal policy consideration in support of higher education. Its purpose is to present information on the educational progress, or success, of students attending private and public institutions, thereby providing a useful framework or background for the larger study.

It is assumed that the role played by small private liberal arts colleges can be understood only in the larger context of the total higher education domain, public and private.[4/] The criterion of student progress is completion

---

[4] John Silber, president of Boston University, reminds us that there is only one public higher education in the United States today:

> The fact of the matter is that virtually all "private" institutions are open to the public, serve public needs, and are gravely influenced by public deliberations (Silber, 1975, p. 33).

He suggests that the terms state-owned and independent be substituted for public and private; although completely sympathetic to his argument, we have chosen to use the traditional terms throughout this report to be consistent with the rest of the volume.

of the baccalaureate within four years after college entry. Although not an entirely satisfactory measure of educational outcomes,[5/] it does provide a convenient, easily understood, and fairly meaningful index of student progress with which to begin an investigation of the special role played by small private liberal arts colleges. Despite all the recent talk about the declining market value of a college degree, the baccalaureate remains a ticket of entry to higher-level jobs for millions of young people, and a college education is still a vehicle of upward social and occupational mobility for lower-class students. Moreover, higher education has come more and more to serve a credentialing function; it has become necessary for entry not only into the higher professions but also into many subprofessional and even technical occupations, which in the past required no more than completion of vocational programs in high school or which provided on-the-job training. In short, baccalaureate completion still stands as a significant indicator of success (Holmstrom, 1976).

The criterion has the additional advantage of directing Federal concern beyond the initial step of providing equal access to higher education toward the more complex and persistent issue of equalizing educational outcomes. During

---

[5]Many students take longer than four years to earn their baccalaureate (El-Khawas & Bisconti, 1974), particularly in urban universities where the tendency is to combine work and study (Healey, 1976).

the last decade, great efforts were made toward achieving equality of access; all of them, however, seem to have fallen short of the goal, chiefly because of the hierachical structure of postsecondary education in this country, together with a tracking system that channels low-income and minority students into the lower-level institutions within that structure. As researchers, educators, and public policy-makers become aware of this situation, they have turned attention to deliberating its social consequences. In the decade ahead, the question "equal access to what?" is certain to overshadow the last decade's singular preoccupation with entry.[6]

Procedure

The data for this study came from ACE's most recent undergraduate longitudinal file, consisting of information on students surveyed first at the time they entered college as first-time, full-time freshmen in the fall of 1968, and followed up four years later in the fall of 1972. These 243,156 students entered a representative national sample of 358

[6]The problem of choice and opportunity has already gained some prominence: Federal funds are currently supporting a large-scale research effort to determine the relation between student aid and choice of institutions and programs. Many education groups have suggested focusing BEOG on access by relating the maximum award to the average noninstructional costs of college attendance, and at the same time modifying SEOG to address the goal of choice by relating awards to tuition and instruction fees (CEEB, 1975, p. i). This proposal is dealt with in greater detail by Hughes (1976).

two-year and four-year colleges and universities. Their responses were weighted to represent the total population of about 1.3 million freshman enrollments in 2,303 institutions.[7/]

Student Categories

As was mentioned previously, baccalaureate completion within four years of college entry was selected as the measure of student progress. Because degree attainment is related to sex, race, ability, and income, it was necessary to take these student characteristics into account for the present analyses.

Ability was measured by high school grade averages: High-ability students are defined as those having B+ or better averages in high school; low-ability students as those making B or lower averages. High-income students were those reporting parental incomes of $10,000 and above for 1967; low-income students were those reporting parental incomes of less than $10,000.[8/]

---

[7] See Creager (1968), Creager et al. (1968), and Astin (1975a and 1975b) for a detailed description of the sampling and weighting procedures used. Appendix A includes a comparison of the first-time, degree-credit enrollment figures reported by USOE with the weighted number of students in the study. The weighted numbers used here overestimate the number of students in private institutions slightly and underestimate those in public institutions. Appendix A also contains some caveats with respect to the data.

[8] The terms high and low are used for convenience; Since median splits were used for both the ability and the income measures, higher and lower would have been more accurate.

Two categories were used to define race: blacks and nonblacks, the latter including not only whites but other nonblack minorities such as Spanish-speaking Americans and Orientals.

Analyses were run for each of the four major variables (i.e., sex, race, ability, income), as well as for the resulting 16 subsets (four variables by two values each) of students.

Institutional Categories

Two systems of institutional classification were used: The USOE classification and the Carnegie Commission classification. The Carnegie Classification has the advantage of clearly differentiating liberal arts colleges from other types of four-year institutions; therefore, the analyses using this classification system are presented in the text, whereas those using the more general USOE classification system are given in Appendix B.

Since the study emphasized baccalaureate completion within four years after college entry, institutions with programs that did not fit this four-year degree completion pattern (e.g., two-year colleges, schools of engineering and technology) were excluded from consideration.

Organization of the Report

Chapter II describes the distribution and baccalaureate performance of students within the eight types of Carnegie-

classified public and private institutions relevant to this study: Research Universities I and II, Doctoral-Granting Universities I and II, Comprehensive Universities and Colleges I and II, and Liberal Arts Colleges I and II. Chapter III gives a more detailed account of the educational progress of students in private liberal arts colleges, and Chapter IV contains a brief discussion of the policy implications of the study findings.

Appendix A compares the weighted number of students in the study population with the USOE full-time degree-enrollment figures in 1968 and gives more information about sampling and weighting procedures; it also lists some caveats with respect to the data. Appendix B discusses degree completion rates in USOE-classified institutions: public and private four-year colleges and universities. The analyses are further refined according to the size, religious denomination, and race of institutions. Excluded from these analyses are all two-year colleges except those branch campuses which the USOE classification scheme identifies as part of a university system. Tables are presented after each section.

Chapter II

Baccalaureate Completion in Carnegie-Classified Four-Year Colleges and Universities

This chapter describes the baccalaureate completion rates of 1968 first-time, full-time freshmen enrolled in the following Carnegie-classified four-year colleges and universities: Research Universities I and II, Doctoral-Granting Universities I and II, Comprehensive Universities and Colleges I and II, and Liberal Arts Colleges I and II. For convenience, a brief description of each institutional category as defined by the Carnegie Commission is given in Table II-1. These institutions constituted about half the institutions of higher education in 1970, serving more than two-thirds of the undergraduate population (Carnegie Commission on Higher Education, 1973, pp. 6-7). The data reported in this chapter are based on the 905,528 first-time, full-time freshmen enrolled in these institutions in 1968 (Table II-2).

Distribution of Students

Though only one-third of the four-year colleges and universities studied here were in the public sector, overall, they enrolled 64 percent of the 1968 freshman class, ranging all the way from 84 percent in Research Universities I (a category in which public institutions constituted 58 percent) down to 2 percent in Liberal Arts Colleges I (a category which included only two public institutions).[1]

[1] Because of the small number of public institutions in the Liberal Arts Colleges I category, this group is excluded from the discussion.

The distribution of students by sex, race, and ability was strikingly similar for each sector: About 47 percent were women, 8 percent were black, and 39 percent were low-ability students (i.e., had high school grade averages of B or lower). The major difference in the type of students served by the public and private sectors was income: 46 percent of the 1968 freshmen enrolled in the public sector, as compared with 35 percent in the private sector, were low-income students: i.e., they reported that their parents' income was below $10,000 in 1967.

Within each sector, however, students were distributed nonrandomly among the Carnegie-classified institutions. Thus, in the private sector Liberal Arts Colleges II (which tended to be less selective) constituted three-fifths of all private four-year institutions and enrolled two-fifths of the 1968 freshman class in this sector. These colleges served the largest shares of the black, female, low-ability, and low-income students enrolled in the private sector (Table II-3): They claimed

- 83 percent of blacks but 38 percent of nonblacks,
- 57 percent of low-ability but 33 percent of high-ability students
- 53 percent of low-income but 37 percent of high-income students, and
- 48 percent of women but 37 percent of men.

The concentration of blacks in Liberal Arts Colleges II is

not surprising since 44 out of the 547 institutions in this category were predominantly black colleges. But Liberal Arts Colleges II served not only low-income, low-ability blacks but also low-income, low-ability nonblacks (Table II-4). The tracking system in the private higher education sector becomes even more apparent when one compares the ratios of students by sex, race, ability, and income enrolled in the highly prestigious institutions, such as Research Universities I and Liberal Arts Colleges I, with those in Liberal Arts Colleges II (Table II-5). For example, in Research Universities I, whites outnumbered blacks thirty-five to one; in Liberal Arts Colleges II, however, the ratio is only five to one. High-ability students outnumbered low-ability students eight to one in Research Universities I, whereas there were slightly more low-ability than high-ability students in Liberal Arts Colleges II. These differences also held for income and sex, in that low-income students and women were less likely to enroll in Research Universities I than were high-income students and men. Thus, Research Universities I in the private sector seemed to cater especially to white, male, high-ability, and high-income students, whereas the less prestigious Liberal Arts Colleges II catered to black, female, low-ability, and low-income students (Table II-6).

In the public sector, Comprehensive Universities and Colleges I constituted half the public four-year institu-

tions and enrolled two-fifths of the 1968 freshman class. In addition, this group of institutions contained the largest share of black, female, low-ability, and low-income students: They claimed

- 62 percent of blacks but 39 percent of nonblacks,
- 48 percent of low-income but 35 percent of high-income students,
- 46 percent of women but 37 percent of men, and
- 45 percent of low-ability but 38 percent of high-ability students.

The ratio of nonblacks to blacks in Comprehensive Universities and Colleges I was eight to one as compared with a ratio of thirty to one in Research Universities I (Table II-5). Except for this racial difference, however, the tracking system was less apparent in the public than in the private sector, although Research Universities I enrolled three times more high-ability than low-ability students and twice as many high-income as low-income students.

Of low-income students, only the academically able could enter prestigious Research Universities I in either sector: 93 percent of low-income students in the private sector and 72 percent of those in the public sector who were enrolled in Research Universities I had high school grade averages of B+ or better. In contrast, looking at the low-income students who attended those institutions with the largest enrollments in each sector, we find that

only 52 percent of those in Liberal Arts Colleges II in the private sector and 57 percent of those in Comprehensive Universities and Colleges I in the public sector had superior high school records.

Four-Year Baccalaureate Completion

Fully three-fifths of the students in the 1968 freshman class enrolling in the four-year colleges and universities covered in this study earned the baccalaureate within four years after college entry. Degree completion rates differed, however, by sex, race, ability, and income as well as by control and type of institution.

Ability, as measured by high school grade averages, was the student characteristic most closely related to baccalaureate completion, followed by sex, race, and income. Further, students attending four-year colleges and universities in the private sector were more likely to receive their degree in four years than were their counterparts in the public sector. To summarize, within four years after college entry

- 68 percent of high-ability but 46 percent of low ability students,
- 65 percent of women but 55 percent of men,
- 60 percent of nonblacks but 51 percent of blacks,
- 62 percent of high-income but 58 percent of

low-income students, and

- 66 percent of private but 56 percent of public students

completed a baccalaureate program. Within each sector, however, degree attainment rates differed by type of student and type of institution.

Private Sector

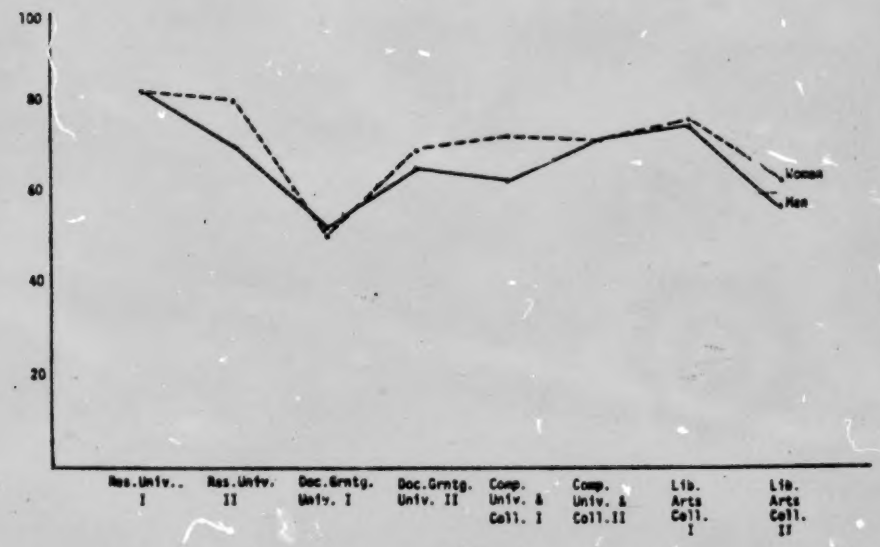
In the private sector, the highest degree completion rates were obtained by students enrolling in Research Universities I (83 percent), followed by Liberal Arts Colleges I (76 percent), and the lowest degree completion rates were obtained by students attending Doctoral-Granting Universities I (52 percent) (Table II-7).

Sex. Although women were more likely to earn their baccalaureate within four years than men were, this difference was less marked in the private than in the public sector. In the private sector, 68 percent of the women and 64 percent of the men received their degree within four years after college entry (Chart II-1). The sex difference in degree completion was particularly evident in Research Universities II and in Comprehensive Universities and Colleges I where high-income women, regardless of ability, outperformed men (Table II-8).

Race. Nonblacks outperformed blacks (67 percent vs. 57 percent) in all but one category of private institutions: In Research Universities II, 80 percent of the blacks but

Chart II-1

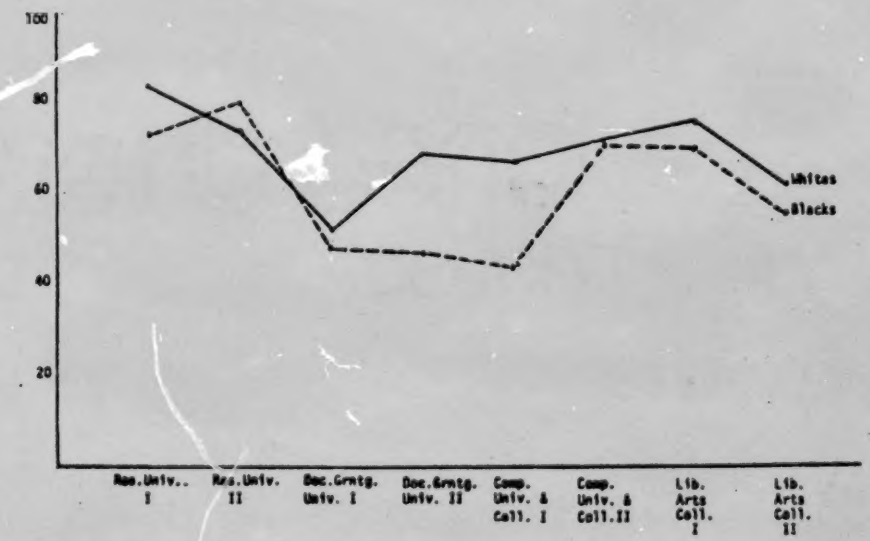
B.A. DEGREE COMPLETION RATES BY CARNEGIE CLASSIFICATIONS OF MEN AND WOMEN IN PRIVATE INSTITUTIONS



74 percent of the nonblacks received their baccalaureates within four years after college entry (Chart II-2); it

Chart II-2

B.A. DEGREE COMPLETION RATES BY CARNEGIE CLASSIFICATIONS AND RACE IN PRIVATE INSTITUTIONS



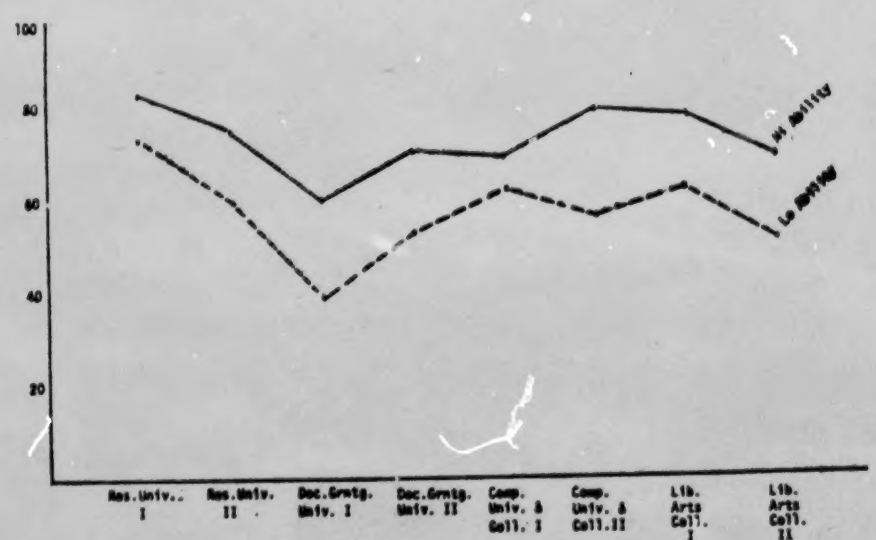
should be noted, however, that Research Universities II enrolled only 8 percent of the blacks in the private sec-

tor. In Liberal Arts Colleges II, where the majority of black students were enrolled, only 56 percent of the blacks, compared with 61 percent of the nonblacks, earned the baccalaureate in the optimal time-span. Black women outperformed black men in most of the institutional categories (Table II-8).

Ability. Ability strongly influenced the four-year degree completion rates of students in the private sector: 73 percent of high-ability but only 35 percent of low-ability students received the baccalaureate in four years. Among low-ability students, the highest degree completion rates were obtained by those in Research Universities I (74 percent), which enrolled only 2 percent of these students. In Liberal Arts Colleges II, where nearly three out of five low-ability students were enrolled, only 53 percent, compared with 70 percent of the high-ability students, received their baccalaureate in four years (Chart II-3)

Chart II-3

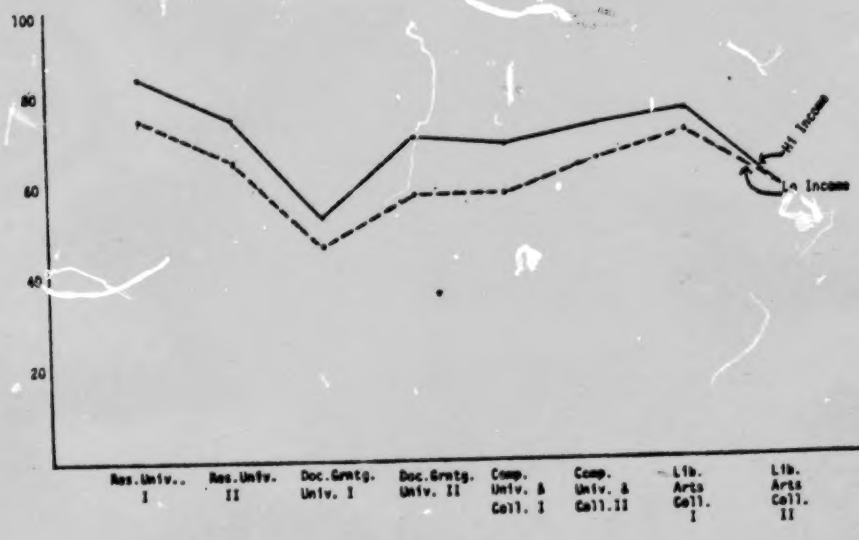
B.A. DEGREE COMPLETION RATES BY CARNEGIE CLASSIFICATIONS AND ABILITY IN PRIVATE INSTITUTIONS



Income. In the private sector, 68 percent of high-income but 62 percent of low-income students received the baccalaureate in four years. Among low-income students, the highest degree completion rates were obtained by those in Research Universities I (76 percent), which enrolled only 3 percent of such students. Over half the low-income students were enrolled in Liberal Arts Colleges II, where three-fifths received the degree, a completion rate identical to that of high-income students (Chart II-4).

Chart II-4

B.A. DEGREE COMPLETION RATES BY CARNEGIE CLASSIFICATIONS AND INCOME IN PRIVATE INSTITUTIONS



Public Sector

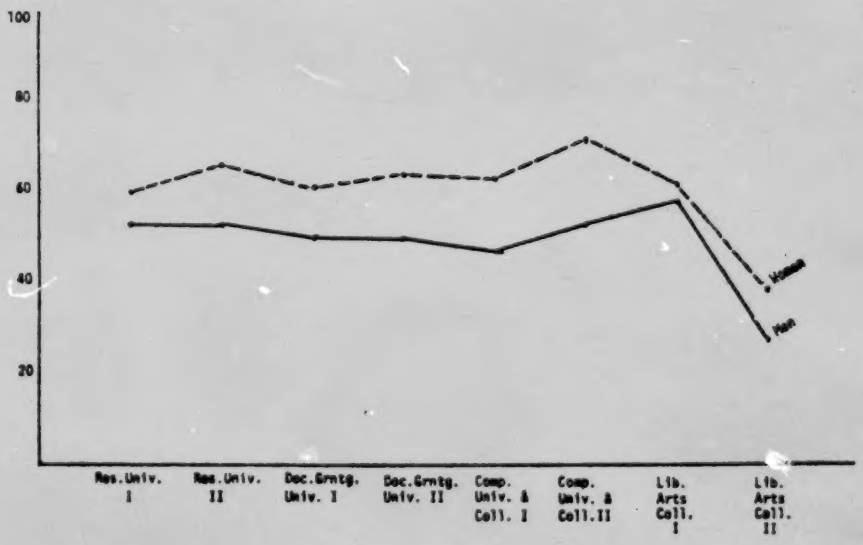
In the public sector, the educational progress of students was surprisingly similar across most institutional types, with over half receiving the baccalaureate within four years after college entry (Table II-9). The highest

four-year degree completion rates were those of students in Comprehensive Universities and Colleges II (63 percent), followed by those in Liberal Arts Colleges I (60 percent); but since there were only two institutions in the latter category, these are excluded from the following discussion. Students in Liberal Arts Colleges II--another category that contained very few public institutions--had the poorest degree completion rates (32 percent).

Sex. In the public sector, as in the private sector, women consistently outperformed men: 63 percent of the women but only half the men earned the baccalaureate in four years (Chart II-5). Women attending Comprehensive

Chart II-5

B.A. DEGREE COMPLETION RATES BY CARNEGIE CLASSIFICATIONS OF MEN AND WOMEN IN PUBLIC INSTITUTIONS



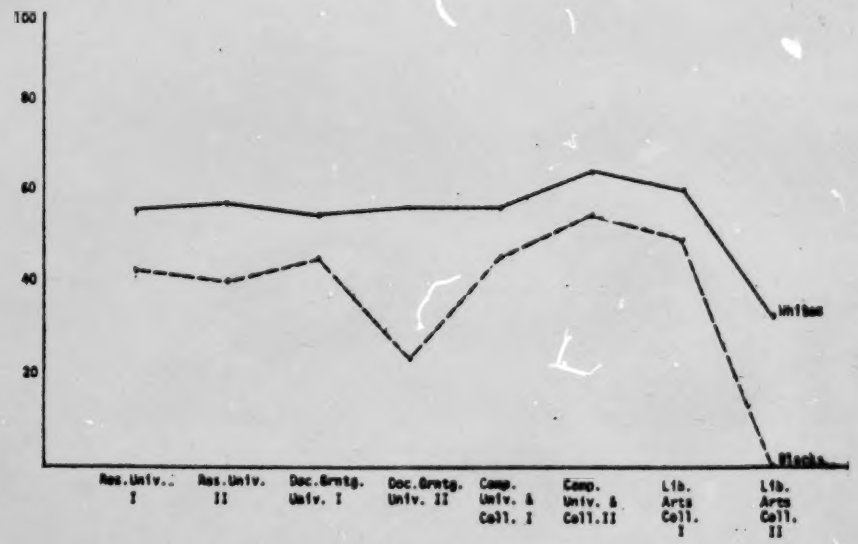
Universities and Colleges II and Research Universities II

were most likely to attain the degree (72 percent and 66 percent respectively) whereas men's degree attainment was relatively consistent.

Race. Nonblacks consistently outperformed blacks in the public sector: 57 percent of the whites but only 46 percent of the blacks earned the degree in four years. Blacks attending Comprehensive Universities and Colleges II (55 percent) were most likely to obtain the baccalaureate within four years, but these institutions enrolled only one-fifth of the blacks in the public sector. Three out of five blacks in the public sector were enrolled in Comprehensive Colleges and Universities I, where only 46 percent earned the baccalaureate in four years, compared with 57 percent of the nonblacks (Chart II-6).

Chart II-6

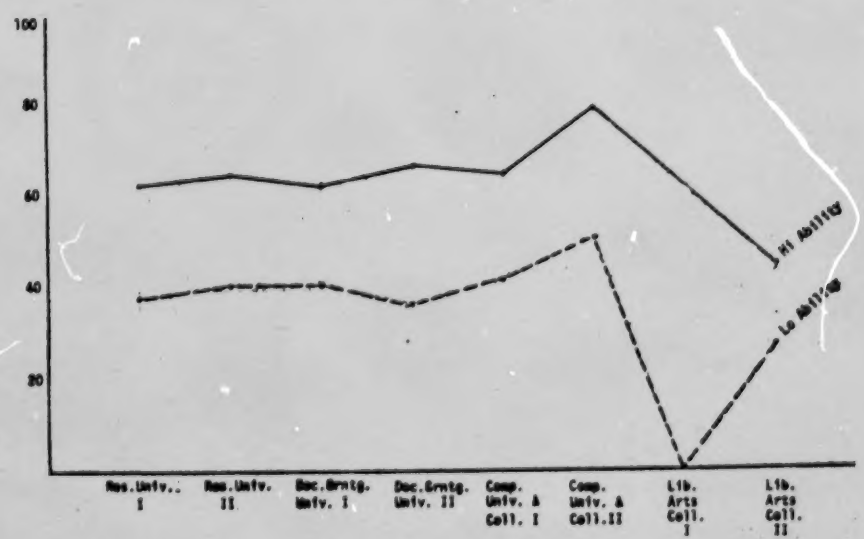
B.A. DEGREE COMPLETION RATES BY CARNEGIE CLASSIFICATIONS AND BY RACE IN PUBLIC INSTITUTIONS



Ability. Again, ability was an important factor in four-year degree completion: 65 percent of the high-ability but 42 percent of the low-ability students in public institutions earned their baccalaureate within four years after college entry. The highest degree completion rates were obtained by low-ability as well as high-ability students in Comprehensive Universities and Colleges II (51 percent and 79 percent, respectively); but these institutions enrolled only 10 percent of low-ability students. In Comprehensive Universities and Colleges I, where nearly half the low-ability students were enrolled, only two-fifths of them received their degree, in contrast to two-thirds of high-ability students (Chart II-7).

Chart II-7

B.A. DEGREE COMPLETION RATES BY CARNEGIE CLASSIFICATIONS AND ABILITY IN PUBLIC INSTITUTIONS

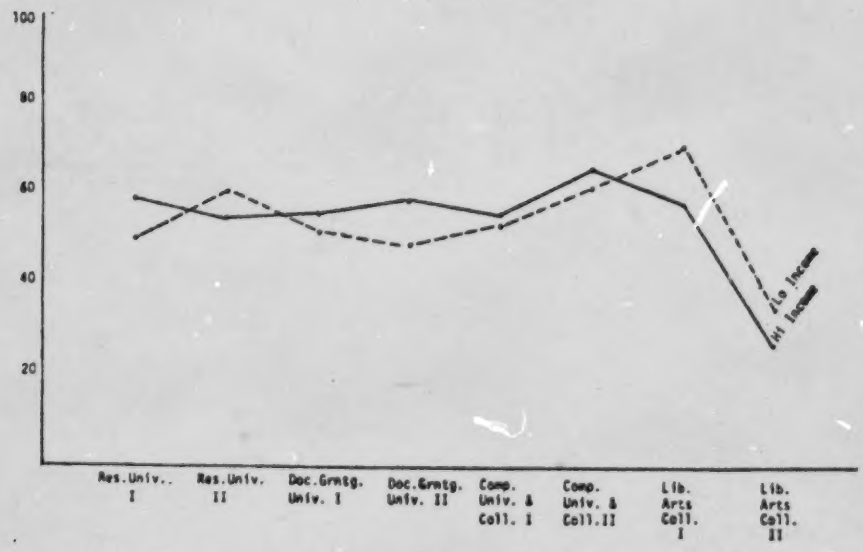


Income. The income difference in four-year degree

completion rates observed in the private sector was not evident in the public sector: 57 percent of the high-income and 55 percent of the low-income students received the baccalaureate in four years after college entry. Moreover, the degree attainment of low-income students in Comprehensive Universities and Colleges I, where nearly half were concentrated, was very similar to that of high-income students (54 percent and 56 percent, respectively) (Chart II-8).

Chart II-8

B.A. DEGREE COMPLETION RATES BY CARNEGIE CLASSIFICATIONS AND INCOME IN PUBLIC INSTITUTIONS



Tracking and Baccalaureate Completion

Clearly, the tracking system that operates in our higher education system--particularly in the private sector--retards the educational progress of black, low-ability, and low-income students. In the private sector, the best

four-year baccalaureate completion rates were those of students entering the highly selective and prestigious institutions in the Research Universities I and Liberal Arts Colleges I categories, which together enrolled only 8 percent of the blacks, 11 percent of the low-ability students, and 16 percent of the low-income students.

The poorest degree completion rates were those of students entering Doctoral-Granting Universities I and Liberal Arts Colleges II, which together enrolled 86 percent of the blacks, 66 percent of the low-ability, and 61 percent of the low-income students. These students would have had a much better chance of receiving the degree in four years if they had attended highly selective and prestigious Research Universities I and Liberal Arts Colleges I, which tended to graduate not only their better students but also many of their low-ability and low-income students. In fact, a student of any given level of ability is less likely to drop out or stop out if he attends a highly selective institution than if he attends a less selective one (Astin, 1971; Holmstrom, 1973a, 1973b, 1973c). Such institutions could enroll a larger proportion of low-ability students than they now do without lowering the overall degree attainment level of their students.

In the public sector, too, the relation between tracking and baccalaureate completion was strong. The highest

degree completion rates were those of students in Comprehensive Universities and Colleges II, which enrolled about one-fifth of the black and one-tenth each of the female, low-ability, and low-income students. Many of these students were concentrated in public Comprehensive Universities and Colleges I where their degree completion rates were considerably lower than those of their counterparts in Comprehensive Universities and Colleges II:

- 63 percent of the women in Comprehensive Universities and Colleges I but 72 percent in II,
- 46 percent of the blacks in Comprehensive Universities and Colleges I but 55 percent in II,
- 42 percent of low-ability students in Comprehensive Universities and Colleges I but 51 percent in II, and
- 54 percent of low-income students in Comprehensive Universities and Colleges I but 62 percent in II

completed the baccalaureate within four years after college entry.

Finally, another negative effect of the tracking system becomes apparent when we look at the difference in four-year baccalaureate completion rates by sector of the black, low-ability, and low-income students in the institutional

types in which they are most likely to enroll: that is, Liberal Arts Colleges II in the private and Comprehensive Universities and Colleges I in the public sector. The degree completion rates of both blacks and low-ability students are 10 percent better in the private sector than they are in the public sector; the degree completion difference between low-income students is about 6 percentage points. Interestingly, black women and nonblack (particularly low-income) men did much better in private Liberal Arts Colleges II than in public Comprehensive Universities and Colleges I. Nonblack women's degree rates were somewhat similar, except for low-ability, low-income women, who did much better in public Comprehensive Universities and Colleges I than in private Liberal Arts Colleges II (Table II-8). The picture is somewhat less clear for black men.

Thus, it would seem, for black women and low-income nonblack men in particular, and for low-ability, and low-income students in general, attendance at private colleges considerably enhances their chances for completing a degree in four years.

Table II-1

Profiles of Carnegie-Classified Institutions and Examples Included in the Study

1. DOCTORAL-GRANTING INSTITUTIONS

1.1 Research Universities I

Number: 30 public, 22 private

Total Enrollment: 1.1 million, approximately 13% of 1970 enrollments.

Criteria: 50 leading universities in terms of federal financial support for academic sciences; award at least 50 Ph.D.'s annually.

Sample: 12 private (e.g., Princeton University, Stanford University); 17 public (e.g., UCLA, Purdue University).

1.2 Research Universities II

Number: 27 public, 13 private

Total Enrollment: 610,894, approximately 7% of 1970 enrollments.

Criteria: Among leading 100 institutions in terms of federal financial support; awarded at least 50 Ph.D.'s annually; OR among leading 50 institutions in terms of number of Ph.D.'s awarded.

Sample: 5 private (e.g., Carnegie-Mellon Univ., Brandeis Univ); 10 public (e.g., Georgia Inst. of Tech., Florida State Univ.).

1.3 Doctoral-Granting Universities I

Number: 34 public, 19 private

Total Enrollment: 641,514, approximately 8% of 1970 enrollments.

Criteria: Award 40 or more Ph.D.'s; OR receive at least $3 million in total federal financial support in either 1969-70 or 1970-71. No institutions are included that grant fewer than 20 Ph.D.'s.

Sample: 9 private (e.g., Dartmouth College, Boston College); 21 public (e.g., SUNY-Stony Brook, University of California-Irvine).

1.4 Doctoral-Granting Universities II

Number: 17 public, 11 private

Total Enrollment: 325,247, approximately 4% of 1970 enrollments.

Criteria: Institutions awarding at least 10 Ph.D.'s.

Sample: 7 private (e.g., Clark University, Adelphi University); 4 public (e.g., University of Akron, University of Alaska).

2. COMPREHENSIVE UNIVERSITIES AND COLLEGES

2.1 Comprehensive Universities & Colleges I

Number: 223 public, 98 private

Total Enrollment: 2,099,300, approximately 25% of 1970 enrollments

Criteria: Offer a liberal arts program and several others (e.g., engineering, business administration); have at least 2 professional or occupational programs; enroll at least 2,000 students. Many have master's programs and, at most, limited doctoral programs.

Sample: 19 private (e.g., University of Hartford, Pratt Institute); 30 public (e.g., Alabama A & M College, Virginia State College).

2.2 Comprehensive Universities & Colleges II

Number: 85 public, 47 private

Total Enrollment: 402,209, approximately 5% of 1970 enrollments.

Criteria: Offer a liberal arts program and at least 1 professional or occupational program (e.g., teacher training, nursing). Excluded are private institutions with fewer than 1,500 students and public institutions with fewer than 1,000 students.

Sample: 9 private (e.g., Springfield College, St. Norbert College); 10 public (e.g., Winston-Salem State University, Longwood College).

3. LIBERAL ARTS COLLEGES

3.1 Liberal Arts Colleges I

Number: 2 public, 144 private

Total Enrollment: 185,906, approximately 2 percent of 1970 enrollments.

Criteria: Highly selective; OR among the 200 leading baccalaureate-granting institutions in terms of numbers of their graduates receiving Ph.D.'s at 40 leading doctoral-granting institutions from 1920 to 1966.

Sample: 64 private (e.g., Wesleyan University, Amherst College); 1 public (University of California-Santa Cruz).

3.2 Liberal Arts Colleges II

Number: 26 public, 547 private

Total Enrollment: 499,963, approximately 6% of 1970 enrollments

Criteria: Remaining liberal arts colleges.

Sample: 97 private (e.g., Athens College; Trinity College-Illinois); 4 public (e.g., St. Mary's College of Maryland, University of Michigan-Dearborn)

Table II-2

Number of 1968 Freshmen by Sex, Race, Ability and Income in Private and Public Four-Year Colleges and Universities by Carnegie Classification

	Research Universities I	Research Universities II	Doctoral-Granting Univ. I	Doctoral-Granting Univ. II.	Comp. Univ. and Colleges I	Comp. Univ. and Colleges II	Liberal Arts Colleges I	Liberal Arts Colleges II	TOTAL
PRIVATE SECTOR - TOTALS	20,457	8,941	28,322	14,443	46,797	12,194	58,776	139,751	329,681
Men	14,927	6,498	19,544	7,411	30,151	6,737	24,087	64,326	173,681
Women	5,530	2,443	8,778	7,032	16,646	5,457	34,689	75,425	156,000
Blacks	571	235	789	251	959	295	1,846	24,544	29,490
Nonblacks	19,886	8,706	27,533	14,192	45,838	11,899	56,930	115,207	300,191
High-ability	18,156	7,825	16,334	11,786	24,262	7,751	46,450	64,718	197,282
Low-ability	2,301	1,116	11,988	2,657	22,535	4,443	12,326	75,033	132,399
High-income	16,585	6,805	18,968	10,793	31,721	7,749	43,847	79,270	215,738
Low-Income	3,872	2,136	9,354	3,650	15,076	4,445	14,929	60,481	113,943
PUBLIC SECTOR - TOTALS	103,690	75,920	93,372	17,056	234,423	41,880	1,472	8,034	575,847
Men	56,500	48,899	55,429	10,065	112,608	19,390	686	4,750	308,327
Women	47,190	27,021	37,943	6,991	121,815	22,490	786	3,284	267,520
Blacks	3,298	1,735	2,497	337	26,935	8,279	50	547	43,678
Nonblacks	100,392	74,185	90,875	16,719	207,488	33,601	1,422	7,487	532,169
High-ability	75,699	52,746	57,451	10,783	134,053	18,816	1,440	1,962	352,950
Low-ability	27,991	23,174	35,921	6,273	100,370	23,064	32	6,072	222,897
High-income	67,335	49,400	56,136	11,136	108,625	13,524	1,219	3,495	310,870
Low-Income	36,355	26,520	37,236	5,920	125,798	28,356	253	4,539	264,977

Table II-3

Sex, Race, Ability, and Income Distribution of the 1968 Freshman Class in Private and Public Four-Year Colleges and Universities by Carnegie Classification

	Research Universities I	Research Universities II	Doctoral-Granting Univ. I	Doctoral-Granting Univ. II	Comp. Univ. and Colleges I	Comp. Univ. and Colleges II	Liberal Arts Colleges I	Liberal Arts Colleges II	TOTAL
PRIVATE SECTOR - TOTALS	6.2	2.7	8.6	4.4	14.2	3.7	17.8	42.4	100.0
Men	8.6	3.7	11.2	4.3	17.4	3.9	13.9	37.0	100.0
Women	3.5	1.6	5.6	4.5	10.7	3.5	22.2	48.3	100.0
Blacks	1.9	0.8	2.7	0.8	3.2	1.0	6.2	83.2	100.0
Nonblacks	6.6	2.9	9.2	4.7	15.3	4.0	19.0	38.4	100.0
High-ability	9.2	4.0	8.3	6.0	12.3	3.9	23.5	32.8	100.0
Low-ability	1.7	0.8	9.1	2.0	17.0	3.4	9.3	56.7	100.0
High-income	7.7	3.2	8.8	5.0	14.7	3.6	20.3	36.7	100.0
Low-income	3.4	1.9	8.2	3.2	13.2	3.9	13.1	53.1	100.0
PUBLIC SECTOR - TOTALS	18.0	13.2	16.2	3.0	40.7	7.3	0.3	1.4	100.0
Men	18.3	15.9	17.9	3.3	36.6	6.3	0.2	1.5	100.0
Women	17.6	10.1	14.2	2.6	45.5	8.4	0.3	0.1	100.0
Blacks	7.6	4.0	5.7	0.8	61.7	18.9	0.1	1.2	100.0
Nonblacks	18.9	13.9	17.1	3.1	39.0	6.3	0.3	1.4	100.0
High-ability	21.4	14.9	16.3	3.1	38.0	5.3	0.4	0.6	100.0
Low-ability	12.6	10.4	16.1	2.8	45.0	10.3	.0+	2.7	100.0
High-income	21.7	15.9	18.1	3.6	34.9	4.4	0.4	1.1	100.0
Low-income	13.7	10.0	14.0	2.2	47.5	10.7	0.1	1.7	100.0

Table II-4

Number of Students by Sex, Race, Income and Ability in Four-Year Colleges and Universities by Control
(Based on Carnegie Classifications)

	Private								Public							
	Res. Univ. I	Res. Univ. II	Doc.-Grant. Univ. I	Doc.-Grant. Univ. II	Comp. Univ.& Colls. I	Comp. Univ.& Colls. II	Librl. Arts Colls. I	Librl. Arts Colls. II	Res. Univ. I	Res. Univ. II	Doc.-Grant. Univ. I	Doc.-Grant. Univ. II	Comp. Univ.& Colls. I	Comp. Univ.& Colls. II	Librl. Arts Colls. I	Librl. Arts Colls. II
Nonblack Females:																
Hi income-Hi ability	4,353	1,895	3,668	4,651	7,931	2,546	23,442	22,734	24,357	13.735	17,067	3,585	41,574	4,979	628	445
Hi income-Lo ability	160	112	2,426	808	4,123	1,015	3,771	17,678	5,544	4,252	6,703	788	16,112	2,607	16	950
Lo income-Hi ability	833	355	1,882	1,407	3,489	1,388	5,549	14,611	12,612	7,097	10,401	2,160	39,158	6,878	128	825
Lo income-Lo ability	0	10	406	74	720	310	810	7,358	2,787	1,327	2,491	202	9,528	2,882	0	708
Black Females:																
Hi income-Hi ability	70	41	121	26	58	56	326	1,550	403	112	194	20	1,308	235	0	0
Hi income-Lo ability	10	0	30	12	62	23	27	1,894	334	10	211	39	2,146	849	0	26
Lo income-Hi ability	91	30	132	29	130	70	462	5,561	532	291	415	100	5,658	1,669	14	0
Lo income-Lo ability	13	0	113	25	133	49	302	4,039	621	197	461	97	6,331	2,391	0	330
Nonblack Males:																
Hi income-Hi ability	9,963	3,847	6,343	3,973	7,616	2,327	11,110	8,405	24,651	18,141	16,471	3,246	19,169	1,319	523	226
Hi income-Lo ability	1,820	830	6,163	1,315	11,727	1,758	4,[illegible]21	24,172	11,576	12,772	15,066	3,449	25,910	2,657	16	1,848
Lo income-Hi ability	2,530	1,507	4,073	1,560	4,844	1,348	5,177	7,784	12,472	12,908	12,615	1,636	24,058	3,209	111	275
Lo income-Lo ability	227	150	2,572	404	5,388	1,207	2,120	12,465	6,393	3,953	10,061	1,653	31,979	9,070	0	2,210
Black Males:																
Hi income-Hi ability	171	66	39	8	75	0	94	740	246	211	65	9	464	50	36	0
Hi income-Lo ability	38	14	178	0	129	24	126	2,097	224	167	359	0	1,942	828	0	0
Lo income-Hi ability	145	84	76	132	119	16	290	3,333	426	251	223	27	2,664	477	0	191
Lo income-Lo ability	33	0	100	19	253	57	219	5,330	512	496	569	45	6,422	1,780	0	0

Table II-5

Sex, Race, Ability, and Income Ratios of the 1968 Freshman Class in Private and Public Four-Year Colleges and Universities by Carnegie Classification

	TOTAL	Research Universities I	Research Universities II	Doctoral-Granting Univ. I	Doctoral-Granting Univ. II	Comp. Univ. and Colleges I	Comp. Univ. and Colleges II	Liberal Arts Colleges I	Liberal Arts Colleges II
PRIVATE SECTOR									
Men:Women	1.1	2.7	2.6	2.2	1.1	1.8	1.2	0.7	0.8
Nonblacks:Blacks	10.2	34.8	37.0	34.9	56.5	47.8	40.3	30.8	4.7
High-ability:Low-ability	1.5	7.9	7.0	1.4	4.4	1.1	1.7	3.8	0.9
High-income:Low-income	1.9	4.3	3.2	2.0	3.0	2.1	1.7	2.9	1.3
PUBLIC SECTOR									
Men:Women	1.2	1.2	1.8	1.5	1.4	0.9	0.9	0.9	1.4
Nonblacks:Blacks	12.2	30.4	42.8	36.4	49.6	7.7	4.1	28.4	13.7
High-ability:Low-ability	1.6	2.7	2.3	1.6	1.7	1.3	0.8	45.0	0.3
High-income:Low-income	1.2	1.8	1.9	1.5	1.9	0.9	0.5	4.8	0.8

Note: The table should be read as follows: Column 1, row 1, there are 2.7 men to every woman in Research Universities I.

Table II-6

CARNEGIE CLASSIFICATION OF FOUR-YEAR INSTITUTIONS AND 1968 FRESHMAN PROFILES

RESEARCH UNIVERSITIES I

Private	Public
22 Institutions	30 Institutions
Freshman Enrollment: 20,457 (6.2%)[a]	Freshman Enrollment: 103,690 (18.0%)[b]
Freshman Composition: 27.0% Women	Freshman Composition: 45.5% Women
2.8% Black	3.2% Black
11.2% Lo-ability	27.0% Lo-ability
18.9% Lo-income	35.1% Lo-income
Four-Year B.A. Completion Rate: 83.2%	Four-Year B.A. Completion Rate: 56.0%

RESEARCH UNIVERSITIES II

Private	Public
13 Institutions	27 Institutions
Freshman Enrollment: 8,941 (2.7%)	Freshman Enrollment: 75,920 (13.2%)
Freshman Composition: 27.3% Women	Freshman Composition: 35.6% Women
2.6% Black	2.3% Black
12.5% Lo-ability	30.5% Lo-ability
23.9% Lo-income	34.9% Lo-income
Four-Year B.A. Completion Rate: 74.0%	Four-Year B.A. Completion Rate: 57.5%

DOCTORAL-GRANTING UNIVERSITIES I

19 Institutions	34 Institutions
Freshman Enrollment: 28,322 (8.6%)	Freshman Enrollment: 93,372 (16.2%)
Freshman Composition: 31.0% Women	Freshman Composition: 40.8% Women
2.9% Black	2.3% Black
42.3% Lo-ability	38.5% Lo-ability
33.0% Lo-income	39.9% Lo-income
Four-Year B.A. Completion Rate: 52.0%	Four-Year B.A. Completion Rate: 54.6%

DOCTORAL-GRANTING UNIVERSITIES II

11 Institutions	17 Institutions
Freshman Enrollment: 14,443 (4.4%)	Freshman Enrollment: 17,056 (3.0%)
Freshman Composition: 48.7% Women	Freshman Composition: 41.0% Women
1.7% Black	2.0% Black
18.4% Lo-ability	36.8% Lo-ability
25.3% Lo-income	34.7% Lo-income
Four-Year B.A. Completion Rate: 68.2%	Four-Year B.A. Completion Rate: 56.1%

COMPREHENSIVE UNIVERSITIES AND COLLEGES I

98 Institutions	223 Institutions
Freshman Enrollment: 46,797 (14.2%)	Freshman Enrollment: 234,423 (40.7%)
Freshman Composition: 35.6% Women	Freshman Composition: 52.0% Women
2.1% Black	11.5% Black
48.2% Lo-ability	42.8% Lo-ability
32.2% Lo-income	53.7% Lo-income
Four-year B.A. Completion Rate: 66.8%	Four-Year B.A. Completion Rate: 55.4%

COMPREHENSIVE UNIVERSITIES AND COLLEGES II

47 Institutions	85 Institutions
Freshman Enrollment: 12,194 (3.7%)	Freshman Enrollment: 41,880 (7.3%)
Freshman Composition: 44.8% Women	Freshman Composition: 53.7% Women
2.4% Black	19.8% Black
36.4% Lo-ability	55.1% Lo-ability
36.5% Lo-income	67.7% Lo-income
Four-Year B.A. Completion Rate: 71.8%	Four-Year B.A. Completion Rate: 63.3%

LIBERAL ARTS COLLEGES I

144 Institutions	2 Institutions
Freshman Enrollment: 58,776 (17.8%)	Freshman Enrollment: 1,472 (.3%)
Freshman Composition: 59.0% Women	Freshman Composition: 53.4% Women
3.1% Black	3.4% Black
21.0% Lo-ability	2.2% Lo-ability
25.4% Lo-income	17.2% Lo-income
Four-Year B.A. Completion Rate: 75.9%	Four-Year B.A. Completion Rate: 60.2%

LIBERAL ARTS COLLEGES II

547 Institutions	26 Institutions
Freshman Enrollment: 139,751 (42.4%)	Freshman Enrollment: 8,034 (1.4%)
Freshman Composition: 54.0% Women	Freshman Composition: 40.9% Women
17.6% Black	6.8% Black
53.7% Lo-ability	75.6% Lo-ability
43.3% Lo-income	56.5% Lo-income
Four-Year B.A. Completion Rate: 60.4%	Four-Year B.A. Completion Rate: 32.1%

[a] Percent of total 1968 first-time, full-time freshman enrollment in private four-year colleges and universities.

[b] Percent of total 1968 first-time, full-time freshman enrollment in public four-year colleges and universities.

Table IL-7

Baccalaureate Completion by Sex, Race, Ability, and Income in Private Four-Year Institutions by Carnegie Classification

Private	Research Univ. I	Research Univ. II	Doctoral-Granting Univ. I	Doctoral-Granting Univ. II	Comp. Univ. & Colleges I	Comp. Univ. & Colleges II	Liberal Arts Colleges I	Liberal Arts Colleges II
Sex:								
Male	83.3**	71.4*	52.6	66.4*	63.5*	71.9*	75.4*	57.1**
Female	83.0**	80.8*	50.8	70.0	72.7	71.7	76.0*	63.2**
Race:								
White	83.5**	73.8*	52.1	68.6*	67.2*	71.8	76.0*	61.4**
Black	73.0**	80.4**	47.6	46.9**	43.8	71.7*	70.3*	55.9**
Ability:								
High ability	84.4**	75.8*	60.9	71.3	70.4	80.1	79.1*	69.6**
Low ability	73.8**	61.5**	40.0	54.3*	62.8**	57.4	63.4**	52.5**
Income:								
High income	84.9**	76.1**	54.2	71.2*	70.4*	74.4	77.1*	60.5**
Low income	76.2**	67.1	47.7	59.1*	59.0	67.3	72.0	60.3**
TOTAL	83.2**	74.0*	52.0	68.2*	66.8*	71.8	75.9*	60.4**

*More than 10% higher than in corresponding public institutions.

**More than 20% higher than in corresponding public institutions.

Table II-8

Degree Completion Rates for Sixteen Types of Students Within Private and Public Institutions, by Carnegie Classifications

	PRIVATE								PUBLIC							
	Research Univ. I	Research Univ. II	Doctoral-Granting Univ. I	Doctoral-Granting Univ. II	Comp. Univ.& Colleges I	Comp. Univ.& Colleges II	Liberal Arts Colleges I	Liberal Arts Colleges II	Research Univ. I	Research Univ. I	Doctoral-Granting Univ. I	Doctoral-Granting Univ. II	Comp. Univ.& Colleges I	Comp. Univ.& Colleges II	Liberal Arts Colleges I	Liberal Arts Colleges II
Nonblack Women:																
Hi-income--Hi-ability	85.6	82.4	59.4	73.1	75.6	77.1	78.9	70.9	70.3	68.2	66.8	73.4	71.0	85.9	60.3	58.3
Hi-income--Lo-ability	66.8	100.0	37.6	65.3	70.4	64.7	64.7	55.6	33.4	51.9	39.6	41.0	[illegible].9	61.4	0.0	28.4
Lo-income--Hi-ability	72.6	65.8	54.6	64.1	74.3	73.3	79.3	64.3	59.8	75.3	69.1	65.1	67.4	81.7	73.3	39.3
Lo-income--Lo-ability	53.4	0.0	43.2	74.0	47.1	33.7	36.1	55.4	[illegible].7	44.2	57.3	26.2	59.7	52.7	—	58.4
Black Women:																
Hi-income--Hi-ability	74.3	100.0	43.5	100.0	100.0	100.0	82.4	76.5	83.2	95.6	72.8	100.0	62.7	34.1	—	—
Hi-income--Lo-ability	100.0	—	46.8	45.8	65.5	100.0	100.0	57.3	18.5	100.0	23.7	21.5	25.4	54.8	—	0.0
Lo-income--Hi-ability	89.8	84.0	52.2	33.6	87.2	89.0	77.0	65.8	57.9	59.4	49.8	26.9	59.6	79.6	100.0	—
Lo-income--Lo-ability	53.4	—	26.1	0.0	42.0	59.2	31.6	57.5	31.5	64.2	26.2	27.0	45.2	56.8	—	0.0
Nonblack Men:																
Hi-income--Hi-ability	86.5	76.0	69.6	76.3	70.4	84.2	80.6	73.5	62.7	59.9	62.0	74.0	61.7	79.3	60.7	70.8
Hi-income--Lo-ability	77.9	58.0	42.1	53.2	67.2	63.0	70.8	51.7	41.8	37.5	44.9	36.9	40.5	42.6	0.0	14.3
Lo-income--Hi-ability	79.8	68.6	52.9	61.5	59.5	84.1	76.3	76.8	50.6	62.3	54.1	47.3	58.2	67.1	64.6	54.0
Lo-income--Lo-ability	56.6	52.6	35.1	38.3	52.4	50.0	57.2	53.1	41.8	43.4	33.3	37.6	38.6	50.9	—	33.5
Black Men:																
Hi-income--Hi-ability	70.9	71.7	32.0	0.0	0.0	—	77.1	62.5	69.6	16.9	58.5	0.0	44.3	100.0	30.5	—
Hi-income--Lo-ability	69.1	100.0	53.4	—	52.0	0.0	33.9	28.4	9.2	.0.0	68.4	—	34.9	38.0	—	—
Lo-income--Hi-ability	73.5	73.3	48.6	57.7	61.8	100.0	82.9	62.6	51.1	39.8	85.2	0.0	62.9	47.4	—	0.0
Lo-income--Lo-ability	35.5	—	66.1	0.0	4.6	44.2	89.2	43.8	23.8	33.3	28.9	0.0	34.1	40.5	—	—

Table II-9

Baccalaureate Completion by Sex, Race, Ability, and Income in Public Four-Year Institutions by Carnegie Classification

Public	Research Univ. I	Research Univ. II	Doctoral-Granting Univ. I	Doctoral-Granting Univ. II	Comp. Univ. & Colleges I	Comp. Univ. & Colleges II	Liberal Arts Colleges I	Liberal Arts Colleges II
Sex:								
Male	52.8	52.6	50.1	50.4	47.4	52.9	58.3	27.7
Female	59.8	66.3	61.1*	64.3	62.7	72.3	61.9	38.6
Race:								
White	56.4	57.9	54.8	56.7	56.6	65.4	60.6	34.5
Black	43.4	41.3	46.3	24.1	45.9	54.9	50.4	0.0
Ability:								
High ability	62.7	64.5	63.0	67.3	65.5	78.6	61.6	45.5
Low ability	37.8	41.4	41.1	36.8	41.9	50.9	0.0	27.8
Income:								
High income	59.2	55.4	56.1	59.8	56.4	66.3	58.0	27.3
Low income	50.0	61.3	52.3	49.1	54.5	61.9	71.0	35.8
TOTAL	56.0	57.5	54.6	56.1	55.4	63.3	60.2	32.1

*More than 10% higher than in corresponding private institutions.

Chapter III

Baccalaureate Completion in Private Liberal Arts Colleges

The Carnegie Commission on Higher Education identified 691 private liberal arts colleges in 1970: 144 were highly selective (Liberal Arts Colleges I) and 547 were less selective (Liberal Arts Colleges II) (CCHE, 1973). For convenience, Liberal Arts Colleges I will be referred to as selective and Liberal Arts Colleges II as nonselective colleges.

Selective and nonselective private liberal arts colleges differ in their clientele, financial conditions, and educational goals. Students in selective colleges tend to be younger and academically superior, to come from more affluent backgrounds, and to have higher degree and career aspirations (Astin & Lee, 1972, pp. 49-65). Nonselective colleges usually have poor drawing power because of their comparative obscurity; they simply do not have national reputations. Recently many of these colleges have suffered declining enrollments and so face extinction. Selective colleges, on the other hand, continue to attract students and seem to be relatively immune to the financial problems that beset nonselective colleges. (See Bowen & Minter, 1975, and Lanier & Andersen, 1975, for analyses of the financial conditions of liberal arts colleges.) Selective and nonselective colleges also differ in the way they meet the educational needs of their students, as this chapter

will show.

As was mentioned in Chapter II, students in Liberal Arts Colleges I were more likely to earn their baccalaureate in four years than were students in Liberal Arts Colleges II (76 percent vs. 60 percent). Regardless of their sex, race, ability, or income, students in selective colleges outperformed their counterparts in nonselective colleges (Table III-1). Even among low-ability students, those in selective colleges performed better than their counterparts in nonselective institutions (63 percent vs. 52 percent).

Further findings suggest that selective colleges cater chiefly to men and high-income students. The difference in the degree attainment rates of men in selective and in nonselective private colleges was larger than the difference for women (18 percentage points vs. 13 percentage points). Similarly, the difference in the degree attainment rates of high-income students enrolled in the two types of institutions was 17 percentage points, in contrast to 12 percentage points for low-income students. On the other hand, neither race nor ability was related to the superior performance of students in selective colleges. Both nonblacks and blacks performed about 14 percentage points better in the selective institutions. Similarly both high-ability and low-ability students performed about 10 percentage points better in the selective institutions.

The Effects of Size

The Carnegie Commission on Higher Education recommended an enrollment range of 1,000 to 2,500 as being the most "effective size" for private liberal arts colleges (CCHE, 1971, pp. 80-86), basing their argument on considerations of administrative convenience rather than student outcomes. To test the assumption that degree attainment rates are higher in "effective size" institutions than in either smaller or larger ones, we ran degree completion data by size categories: Effective size (1,000-2,500); smaller than 1,000; and larger than 2,500. Table III-2 presents the results for the three subcategories of Liberal Arts Colleges I but in only two of the subcategories of Liberal Arts Colleges II: There were no nonselective colleges with enrollments above 2,500 in our sample.

In nonselective colleges, the degree attainment rates of students in "effective size" and in smaller colleges were very similar. In selective colleges, size was negatively related to degree completion: Men performed better in "effective size" (76 percent) and smaller colleges (79 percent) than they did in larger colleges (59 percent). Similarly, women's educational progress was poorest in large colleges, where only 66 percent earned the degree. In contrast to men, however, women in "effective size" colleges performed considerably better than women in smaller colleges (81 percent and 71 percent, respectively).

High-ability students tended to do better in "effective size" colleges (81 percent) than in smaller (75 percent) or larger (73 percent) colleges. Low-ability students tended to do much better in both "effective size" (67 percent) and smaller colleges (65 percent) than in larger colleges (35 percent). The difference in the degree attainment rates of low- and of high-ability students was particularly striking in larger colleges where 73 percent of high-ability but only 35 percent of low-ability students received the degree within four years after college entry. The performance of low-ability women in large selective colleges was much lower than that of low-ability men: 28 percent versus 40 percent completed the degree.

Large size seems to have had a definitely retarding effect on low-ability students, and particularly on low-ability women. In general, women performed best in "effective size" selective colleges, whereas men performed about equally well in smaller and in "effective size" selective colleges. These findings suggest that policy recommendations based primarily on administrative criteria should be reassessed in the light of findings relating to differential student outcomes deriving from differences in student characteristics, and in level, control, and size of institution.

Table III-1

Baccalaureate and Higher Degree Completion in Private Liberal Arts Colleges I and II

	Liberal Arts Colleges I	Liberal Arts Colleges II
Nonblack Women:		
Hi income-Hi ability	78.9	70.9
Hi income-Lo ability	64.7	55.6
Lo income-Hi ability	79.3	64.3
Lo income-Lo ability	36.1	55.4
Black Women:		
Hi income-Hi ability	82.4	76.5
Hi income-Lo ability	100.0	57.3
Lo income-Hi ability	77.0	65.8
Lo income-Lo ability	31.6	57.5
Nonblack Men:		
Hi income-Hi ability	80.6	73.5
Hi income-Lo ability	70.8	51.7
Lo income-Hi ability	76.3	76.8
Lo income-Lo ability	57.2	53.1
Black Men:		
Hi income-Hi ability	77.1	62.5
Hi income-Lo ability	33.9	28.4
Lo income-Hi ability	82.9	62.6
Lo income-Lo ability	89.2	43.8
Totals:		
Males	75.4	57.1
Females	76.0	63.2
Whites	76.0	61.4
Blacks	70.3	55.9
High ability	79.1	69.6
Low ability	63.4	52.5
High income	77.1	60.5
Low income	72.0	60.3
Grand Total	75.8	60.4

Table III-2

Baccalaureate Completion by Sex and Ability in Private Liberal Arts Colleges by Size

	Liberal Arts Colleges I				Liberal Arts Colleges II		
	Smaller <1,000	Effective Size 1,000 - 2,500	Larger 2,500>	Total	Smaller <1,000	Effective Size 1,000 - 2,500	Total
Total	72.8	78.7	62.5	75.8	60.6	60.1	60.4
Men - Lo ability	77.5	67.0	40.4	66.8	50.8	48.7	50.0
Men - Hi ability	80.0	80.3	68.1	79.3	74.2	70.7	72.6
Men - Total	79.0	76.4	59.2	75.4	57.3	56.9	57.1
Women - Lo ability	58.1	68.2	27.6	58.1	55.2	57.3	55.9
Women - Hi ability	74.6	82.3	77.8	79.0	68.8	67.4	68.3
Women - Total	71.3	81.1	65.8	76.0	63.1	63.5	63.1
Low Ability	64.6	67.2	34.8	63.4	52.7	52.0	52.5
High Ability	75.4	81.4	73.3	79.1	70.2	69.0	69.6

Chapter IV

Summary

Observers of the American higher education scene (e.g., Ashby, 1971) generally view the high attrition rates of the college students as one of its distinctly disturbing features. During the 1960s, more than ten million students entered the nation's 2,500 two-year and four-year colleges and universities; fewer than half received degrees in the optimal time period (within two and four years, respectively), and 30 to 40 percent never earned degrees.[1] In the present decade, over fifteen million students are entering nearly 3,000 colleges and universities; again, about half can be expected to graduate on schedule, whereas five to six million probably will never earn degrees (Cope & Hannah, 1975, p. 1).

When two-year college entrants--who are less likely than others to obtain baccalaureates--are excluded,[2] the statistics on degree completion and continuous attendance are more hopeful: Of the 1968 freshmen entering four-year colleges and universities, 66 percent of those in the

---

[1] Never is perhaps too strong a word. To make this assertion with complete accuracy, the researcher would have to follow the subjects to the end of their lives. In these days of continuing education, adult education, lifelong learning and other programs specifically designed for the mature adult returning to school, it seems likely that larger proportions of one-time dropouts will eventually complete their degrees.

[2] About two in five of the students who initially enter two-year colleges and then transfer to senior institutions receive the baccalaureate in four years, in contrast to three in five "native" students (Holmstrom & Bisconti, 1974).

private sector and 56 percent of those in the public sector received the baccalaureate by 1972. The four-year baccalaureate completion rates ranged from a high of 83 percent in private Research Universities I to a low of 32 percent in public Liberal Arts Colleges II. Given two students of the same sex, racial/ethnic background, ability, and income level, the one who attends a private institution is more likely to earn the degree within four years than is the one who attends a public institution. These findings are not surprising: Previous research has amply documented the greater holding power of private colleges and universities (Friedman & Thompson, 1970; Astin, 1975a; Cope & Hannah, 1975).

This study also confirms the existence of a tracking system within the four-year college sector. Tracking in higher education has become a major concern to many observers, who point out that, though an increasing number of low-income youth have been entering institutions of higher education since the 1960s, their enrollment rates have not kept up with those of high-income youth (Spady, 1967). Moreover, the attendance rates of low-income students, as well as data on education, occupation, and income all indicate

> . . . an increase in social class position as one ascends the prestige hierarchy of colleges and universities. Community colleges, at the bottom of the tracking system in higher education, are also lowest in student

body class composition (Karabel, 1972, p. 528).

Low-income students, students with poor academic records, and minority-group members tend to enroll in community colleges or proprietary schools. Community college students from disadvantaged backgrounds are less likely than other community college students to enroll in transfer programs and thus have less chance of earning the baccalaureate (Cross, 1968; 1971; Medsker & Tillery, 1971; Godfrey & Holmstrom, 1972; Bushnell, 1973; Holmstrom & Bisconti, 1974). In short, community colleges have succeeded in providing lower-status young people with opportunities to attend college, but at the same time, they have increased the socioeconomic difference in college completion rates (Folger, Astin, & Bayer, 1970). Similarly, a study of the effectiveness of public and proprietary occupational training maintains that

> . . . this latest evolution in postsecondary education that has recently been extended to the least-disadvantaged population in the system maintains class and income inequalities rather than overcomes them (Wilms, 1974, p. iii).

Our data indicate that a similar perpetuation of inequalities occurs within four-year colleges and universities: Blacks, low-ability students, and low-income students as well as women, were less likely to attend highly selective and prestigious four-year colleges and universities and

were more likely to attend small (average enrollment size of 850), less visible, and financially troubled Liberal Arts Colleges II in the private sector, and large (average enrollment size 7,470) state colleges and universities (i.e., Comprehensive Colleges and Universities I) in the public sector. Within each sector, those institutions that catered to the black, low-ability, or low-income student were less likely to graduate their students in four years than were other institutions. In the private sector, most of the black, low-ability, and low-income students who attended highly selective and prestigious institutions were able to keep pace with the more able or affluent nonblack students; their baccalaureate completion rates were substantially higher than those of their counterparts in less selective institutions. Similarly in the public sector, those few black, low-ability, or low-income students who attended Comprehensive Universities and Colleges II had higher degree completion rates than did their counterparts in other types of public four-year colleges and universities. Thus, the tracking system operates to reduce the chances that the black, low-ability, or low-income student will complete the degree in the optimal time span. Clearly, if the goal of equal educational opportunity is to be fully realized, "disadvantaged" students must be admitted in larger numbers to those institutions which seem to have a facilitating effect on degree completion.

The data in Table IV-1, which show the number of entering freshmen required to graduate 100 students in four years for each of the Carnegie-classified institutional types covered here, have some interesting economic implications. Clearly, larger numbers of students are required for each institutional category in the public sector to produce 100 B.A.s than are required in the private sector.

Assume we are interested in baccalaureate-recipients who got support under the BEOG program. Using average BEOG funds per institutional category,[3/] Table IV-2 shows the total BEOG costs per 100 baccalaureate-recipients in the private and in the public sectors. With the single exception of Doctoral-Granting Universities I, more BEOG funds are required to finance 100 graduates in the public than in the private sector, and observation worth making in light of the current preoccupation with cost efficiency.

The public sector continues to play a major role in equalizing educational opportunity for access to higher education. Our findings suggest that the private sector might become the vehicle for achieving equalization of educational outcomes. Moreover, through judicious federal support programs, private colleges and universities might accomplish this mission in an economically efficient manner.

---

[3]The average amount of BEOG funds awarded in the 1974-75 academic year was $630 for students in public universities, $640 in public four-year colleges, and $660 each in private universities and four-year colleges (Atelsek & Gomberg, 1975, p. 25).

Table IV-1

Number of Freshmen Required for 100 B.A.s in Four Years

	Research Univ. I	Research Univ. II	Doctoral-Granting Univ. I	Doctoral-Granting Univ II	Comp. Univ. & Colleges I	Comp. Univ. & Colleges II	Liberal Arts Colleges I	Liberal Arts Colleges II
Private Sector	120.2	135.1	192.3	146.6	149.7	139.3	131.9	165.6
Public Sector	178.6	173.9	197.6	178.3	180.5	160.0	166.1	311.5
Difference (Public minus Private)	-58.4	-38.8	-5.3	-31.7	-30.8	-20.7	-34.2	-145.9

Table IV-2

BEOG Funds Required for Support of 100 B.A.s[a]

	Research Univ. I	Research Univ. II	Doctoral-Granting Univ. I	Doctoral-Granting Univ. II	Comp. Univ. & Colleges I	Comp. Univ. & Colleges II	Liberal Arts Colleges I	Liberal Arts Colleges II
Private sector[b]	$ 79,332	$ 89,166	$126,918	$ 96,756	$ 98,802	$ 91,938	$ 87,054	$109,296
Public Sector	$112,518[c]	$109,557[c]	$124,506[c]	$112,329[c]	$113,715[c]	$100,800[c]	$106,304[d]	$199,360[d]
Difference (Public minus Private)	$-33,186	$-20,391	$ -2,412	$-15,573	$-14,913	$ -8,862	$-19,250	$-90,064

[a]Obtained by multiplying average BEOG funds by the number of students required for 100 B.A.s.

[b]Average BEOG grant in private universities and public colleges in 1974-75 was $660.

[c]Average BEOG grant in public universities was $630.

[d]Average BEOG grant in public four year colleges was $640.

References

Ashby, Eric. Any Person, Any Study: An Essay on Higher Education in the United States, sponsored by the Carnegie Commission on Higher Education. New York: McGraw-Hill Book Co., 1971.

Astin, Alexander W. Predicting Academic Performance in College. New York: Free Press, 1971.

Astin, Alexander W. Dropouts, Stopouts, and Persisters: A National Profile. Los Angeles: Laboratory for Research in Higher Education, University of California, 1975. (a)

Astin, Alexander W. Preventing Students from Dropping Out. San Francisco: Jossey-Bass, 1975. (b)

Astin, Alexander W., & Lee, Calvin B.T. The Invisible Colleges: A Profile of Small, Private Colleges with Limited Resources, sponsored by the Carnegie Commission on Higher Education. New York: McGraw-Hill Book Co., 1972.

Astin, Alexander W., & Panos, Robert J. The Educational and Vocational Development of College Students. Washington: American Council on Education, 1969.

Atelsek, Frank J., & Gomberg, Irene L. Student Assistance: Participants and Programs, 1974-75, Higher Education Panel Reports, no. 27. Washington: American Council on Education, 1975.

Bowen, Howard R., & Minter, W. John. Private Higher Education: First Annual Report on Financial and Educational Trends in the Private Sector of American Higher Education. Washington: Association of American Colleges, 1975.

Bushnell, David S. Organizing for Change: New Priorities for Community Colleges. New York: McGraw-Hill Book Co., 1973.

Carnegie Commission on Higher Education. New Students and New Places: Policies for the Future Growth and Development of American Higher Education. New York: McGraw-Hill Book Co., 1971.

Carnegie Commission on Higher Education. A Classification of Institutions of Higher Education. Berkeley, Calif.: CCHE, 1973.

College Entrance Examination Board. Federal Student Aid Programs: A Comparison of Legislative Options. Washington: CEEB, 1975.

Cope, Robert G., & Hannah, William. Revolving College Doors: The Causes and Consequences of Dropping Out, Stopping Out, and Transferring. New York: John Wiley & Sons, 1975.

Creager, John A. General Purpose Sampling in the Domain of Higher Education, ACE Research Reports, vol. 3, no. 2, 1968.

Creager, John A.; Astin, Alexander W.; Boruch, Robert F.; & Bayer, Alan E. National Norms for Entering College Freshmen: Fall 1968, ACE Research Reports, vol. 3, no. 1, 1968.

Cross, K. Patricia. The Junior College Student: A Research Description. Princeton, N.J.: Educational Testing Service, 1968.

Cross, K. Patricia. Beyond the Open Door: New Students to Higher Education. San Francisco: Jossey-Bass, 1971.

El-Khawas, Elaine H. Public and Private Higher Education: Differences in Role, Character, and Clientele, report submitted to the U.S. Office of Education. Washington: Policy Analysis Service, American Council on Education, 1976.

El-Khawas, Elaine H., & Bisconti, Ann S. Five and Ten Years After College Entry. ACE Research Reports, vol. 9, no. 1, 1974.

Folger, John A.; Astin, Helen S.; & Bayer, Alan E. Human Resources and Higher Education. New York: Russell Sage Foundation, 1974.

Friedman, Nathalie, & Thompson, James. The Federal Educational Opportunity Grant Program: A Status Report, Fiscal Year 1970. New York: Bureau of Applied Social Research, Columbia University, 1971.

Godfrey, Eleanor, & Holmstrom, Engin I. Study of Community Colleges and Vocational Technical Centers, Phase I. Washington: Bureau of Social Science Research, 1970.

Healey, Timothy S. "Report Card on America," paper presented at the 31st National Conference on Higher Education, sponsored by the American Association for Higher Education, Chicago, March 1976.

Holmstrom, Engin I. Low Income Students: Do They Differ from "Typical" Undergraduates? ACE Research Reports, Vol. 8, no. 5, 1973. (a)

Holmstrom, Engin I. Low Achievers: Do They Differ from "Typical" Undergraduates? ACE Research Reports, vol. 8, no. 6, 1973. (b)

Holmstrom, Engin I. "Older" Freshmen: Do They Differ from "Typical" Undergraduates? ACE Research Reports, vol. 8, no. 7, 1973. (c)

Holmstrom, Engin I. "Higher Education and Social Mobility: A Promise Still Kept," paper presented at the 31st National Conference on Higher Education, sponsored by the American Association for Higher Education, Chicago, March 1976.

Holmstrom, Engin I., & Bisconti, Ann S. Transfers from Junior to Senior Colleges. Washington: American Council on Education, 1974.

Hughes, John F. Policy Options for Federal Consideration, report submitted to the U.S. Office of Education. Washington: Policy Analysis Service, American Council on Education, 1976.

Karabel, Jerome. "Community Colleges and Social Stratification," Harvard Educational Review, vol. 42, no. 4, November 1972, pp. 521-62.

Keeton, Morris T. Models and Mavericks: A Profile of Private Liberal Arts Colleges, sponsored by the Carnegie Commission on Higher Education. New York: McGraw-Hill Book Co., 1971

Lanier, Lyle H., & Andersen, Charles J. A Study of the Financial Condition of Colleges and Universities: 1972-1975, ACE Special Report. Washington: Office of Administrative Affairs and Educational Statistics, American Council on Education, 1976.

Medsker, Leland L., & Tillery, Dale. Breaking the Access Barriers: A Profile of Two-Year Colleges, sponsored by the Carnegie Commission on Higher Education. New York: McGraw-Hill Book Co., 1971.

Pace, C. Robert. The Demise of Diversity? A Comparative Profile of Eight Types of Institutions. Berkeley, Calif.: Carnegie Commission on Higher Education, 1974.

Schmidt, George P. The Liberal Arts College: A Chapter in American Cultural History. New Brunswick, N.J.: Rutgers University Press, 1957.

Silber, John R. "Paying the Bill for College," Atlantic, vol. 235, no. 5, May 1975, pp. 33-40.

Smith, Patricia, & Henderson, Cathy. A Financial Taxonomy, report submitted to the U.S. Office of Education. Washington: Policy Analysis Service, American Council on Education, 1976.

Spady, William G. "Educational Mobility and Access: Growth and Paradoxes," American Journal of Sociology, vol. 73, no. 3, 1967, pp. 273-86.

Wilms, Wellford W. The Effectiveness of Public and Proprietary Occupational Training. Berkeley: Center for Research and Development in Higher Education, University of California, 1974.

APPENDIX A

Sample, Weighted Estimates, and Data Caveats

Sample and Weighted Estimates

The original 1968 freshman sample comprised 243,156 students. For the follow-up survey in 1972, samples of approximately 300 students were selected randomly from each of the 358 participating institutions, yielding a total of 101,000 subjects who were surveyed by mail. After several efforts to encourage response, 41,356 usable questionnaires were returned. Complex weighting procedures were then applied to these data to adjust for any bias introduced by nonresponse and to permit generalization to the population of 1968 entering freshmen. (See Astin, 1975a, 1975b, for a detailed description of the sampling and weighting procedures used for the 1968-72 longitudinal file.)

Table A-1 shows the (weighted) number of students in the 1968-72 freshman longitudinal file, by level and control of institution. Comparing these figures with the first-time, degree-credit enrollment figures reported by USOE in Opening Fall Enrollment in Higher Education: Part A - Summary Data 1968, we find that the ACE totals underestimate first-time degree-credit enrollments in public four-year institutions by 42,422 cases, and overestimate enrollments in private four-year institutions by 20,359 cases.

Data Caveats

In considering the findings reported in this study,

the reader should bear in mind the following six caveats with respect to the data:

1. The 1968 freshman data used in this study are weighted estimates of population counts and therefore subject to error.

2. These data come from first-time, full-time freshmen only; no information is available from the ACE files on part-time students, a majority of whom attend public colleges and universities.

3. The data come from students who entered college in 1968, a watershed year which saw the introduction of new policies and programs intended to attract blacks and other minority or disadvantaged students into higher education. Since then, both the enthusiasm and the financial support for these programs have declined. Thus, the impressive performance of some of the students, as reported here, may be attributable to their uniqueness as a class, not to any general trends.

4. The data cover only the four years after college entry; the "success" rates represent those students who completed the baccalaureate within an optimal period of time. Many of the remaining students probably completed the degree within another year or two. A longer follow-up period, and further analysis of dropouts and stopouts, would be required to clarify the picture of the comparative educational progress of students attending different types

of institutions.

5. The institutional categories represent those colleges and universities in which students enrolled as freshmen in 1968; they are not necessarily those from which the students received the baccalaureates. Institutions whose students tend to transfer will, of course, have lower baccalaureate completion rates than will institutions whose students tend to remain throughout the undergraduate years. Transfer rates and their implications are discussed briefly in Appendix B.

6. Comparing public and private institutions in the liberal arts category is hazardous, since relatively few public institutions fall into this category.

Table A-1

Comparisons with USOE Opening Fall Enrollment Figures for First-Time Degree-Credit Students in 1968

	TOTAL		MEN		WOMEN	
	OE	ACE	OE	ACE	OE	ACE
PUBLIC - TOTAL	948,098	924,828	549,832	540,022	398,266	384,806
Universities	332,358	304,810	191,084	179,189	141,274	125,621
Four-Year	305,326	290,452	157,100	147,185	148,226	143,267
Two-Year	310,414	329,566	201,648	213,648	108,766	115,918
PRIVATE - TOTAL	392,107	409,201	216,377	224,767	175,730	184,434
Universities	86,323	83,138	54,623	52,928	31,700	29,210
Four-Year	252,457	276,001	134,344	144,451	118,113	131,550
Two-Year	53,327	51,062	27,410	27,388	25,917	23,674

APPENDIX B

Baccalaureate Completion in Four-Year Colleges and Universities--USOE Classification

This Appendix described the four-year baccalaureate completion rates of first-time, full-time freshmen who entered public and private four-year colleges and universities in 1968. The institutional categories are based on the USOE classification scheme. Two-year college students are excluded from these analyses because their B.A. completion rates depend on their opportunities for transfer to four-year colleges or universities. Further, preparing students for the bachelor's degree is not a major educational goal of two-year colleges.

Because of the definitional differences between the USOE and the Carnegie Classification systems, the study population in this section includes 196 more institutions and 36,709 more students than are covered in Chapter II.

Distribution of the Study Population

Table B-1 shows the institutional distribution of all the students covered in this appendix: 37 percent of the 1968 first-fime, full-time freshmen entered private institutions. (When two-year colleges are included, the private sector claimed about three out of ten freshmen in 1968.) Over half (55 percent) of students in both the public and the private sector were men. Men were more likely to enroll in universities than were women: 64 percent of the students in private universities and 59 percent of those

in public universities were men.

Blacks constituted only 8 percent of the 1968 freshmen, in both the public and the private sectors. They were more likely to attend four-year colleges than universities: 10 percent of students in private and 12 percent in public four-year colleges were blacks, compared with 3 percent each in private and public universities.

Three out of five freshmen entering four-year colleges and universities in 1968 may be designated high-ability: i.e., they had high school grade averages of B+ or better. These students were more likely to enroll in universities than in four-year colleges: 70 percent of the 1968 freshmen enrolled in private and 64 percent of those enrolled in public universities were high-ability students, in contrast to only 58 percent each in private and public four-year colleges.

Finally, 58 percent of the freshmen entering four-year colleges and universities in 1968 reported 1967 parental incomes of $10,000 and above. These high-income students were more likely to enroll in private (65 percent) than in public (54 percent) institutions. They were also more likely to attend universities, particularly private ones: 73 percent of the students enrolled in private universities, but 62 percent of those in private four-year colleges, were high-income students. The corresponding figures for the public sector were 62 percent in universi-

ties and 45 percent in four-year colleges.

In summary, universities, and particularly private universities, were more likely than were four-year colleges to attract a highly able, relatively affluent, predominantly male, nonblack clientele.

Baccalaureate Performance

This section first reports baccalaureate completion rates for the total study population and then takes a closer look at student performance in four-year colleges, particularly private ones.

Universities and Four-Year Colleges

The following generalizations can be drawn from the data presented in Table B-2:

- Women are more likely to earn the baccalaureate within four years after college entry than are men.
- Nonblacks are more likely to earn the baccalaureate within four years than are blacks.
- High-ability students are much more likely to earn the baccalaureate within four years than are low-ability students.
- High-income students are slightly more likely to earn the baccalaureate within four years than are low-income students.
- Students attending private institutions

are more likely to earn the baccalaureate in four years than are students attending public institutions.

- Students in private institutions had maintained high degree completion rates whether they attended universities or four-year colleges. In the public sector, on the other hand, students enrolled in four-year colleges were slightly more likely to receive the B.A. within four years than were those enrolled in universities.

The relation of degree attainment to student characteristics and to institutional characteristics (level and control) is complex and is discussed in more detail below.

Sex. Women outperformed men in every type of institution: The overall degree completion rates were 65 percent for women and 54 percent for men. About two-thirds of the women in private universities and four-year colleges received the degree within four years after college entry. In the public sector, however, women attending four-year colleges were more likely to receive the degree (65 percent) than were women in universities (60 percent). Finally, women in the private sector had somewhat higher degree attainment rates--by about 5 percent--than did women in the public sector.

The difference between men enrolled in the public and in the private sectors was much more striking: 51 percent of men in public but 61 percent of those in private four-year institutions received the B.A. within four years after college entry. Men in public universities had the poorest degree attainment rates (49 percent), followed by those in public four-year colleges (52 percent). In the private sector, men attending universities outperformed those in four-year colleges (63 percent and 59 percent, respectively).

The more rapid educational progress of women cannot be explained entirely by their better academic ability. Among high-ability students, women still outperformed men, but among low-ability students, sex differences disappeared. The only exception was low-ability black women, who outperformed black men in three out of four institutional categories (Table B-3).

Race. Nonblacks consistently outperformed blacks in every type of institution. The overall four-year degree completion rates were 60 percent for nonblacks and 51 percent for blacks. The racial difference was about 8 percent among students in the private and 10 percent among students in the public sector. Blacks attending private universities were just as likely to receive the B.A. as those attending private four-year colleges were (56 percent and 57 percent, respectively), whereas blacks in public universities did much worse than their counterparts in

public four-year colleges (36 percent and 49 percent, respectively). The same was true for nonblacks: i.e., their degree attainment rates were lowest in public universities.

Among high-ability students, black women outperformed black men. Among low-ability blacks, high-income men outperformed high-income women in public universities and four-year colleges, while the reverse was true in the private sector (Table B-4).

Ability. Ability, as measured by high school grades, was the student characteristic most closely associated with B.A. completion rates: 67 percent of high-ability but only 46 percent of low-ability students earned the degree within four years after college entry (Table B-2). The difference in degree attainment was greater among those in the public institutions (where 65 percent of the high-ability but 42 percent of the low-ability students received the degree) than in the private institutions (where 70 percent of the high-ability but 53 percent of the low-ability students received the degree).

Among high-ability students, the degree attainment rates of those in public and in private four-year colleges were very similar (68-69 percent), whereas those attending private universities performed considerably better than their counterparts attending public universities (71 percent and 62 percent, respectively).

Among low-ability students, those in public univer-

sities has the lowest degree attainment rates (37 percent), followed by those in public four-year colleges (45 percent). Low-ability students in private four-year colleges were more likely than were their counterparts in private universities to complete the degree in four years (54 percent and 47 percent, respectively).

In summary, high-ability students in private universities performed much better than their counterparts in public universities, while those attending four-year colleges in the public and private sector achieved similar degree completion rates. Low-ability students, on the other hand, seemed to do best in private four-year colleges, followed by private universities, and then public four-year colleges. Apparently, public universities slow down or discourage their low-ability students.

Income. Finally, the parental income of students made the least differenct to their degree completion rates, although high-income students were slightly more likely to earn the degree in four years than were low-income students (61 percent and 56 percent, respectively).

The largest difference in B.A. attainment by income level was observed among students attending private institutions, where 66 percent of the high-income but 59 percent of the low-income students earned the degree in four years (Table B-2). The comparable figures in the public sector were 57 percent and 55 percent. Finally, the dif-

ference by income level was somewhat more obvious among students attending universities than among those in four-year colleges: 68 percent of high-income but 54 percent of low-income students in private universities received the degree as compared with 65 percent and 59 percent of high-income and low-income students in four-year private colleges. To a smaller degree, this same difference was found in the degree completion of high-ability and low-ability students in public universities and four-year colleges.

In summary, students in private institutions were more likely than were those in public institutions to receive the baccalaureate within four years after college entry regardless of their sex, race, ability, or income. The poor record of public universities--which rank lowest of any of the four institutional types considered here with respect to the B.A. completion rates of their students--may be attributable in part to USOE's including two-year branch campuses in the university category. Since public universities are more likely than private universities to have two-year branch campuses, the USOE classification scheme may distort B.A. completion rates in public universities.

The institutional affiliation of the students in this study was based on the types of institutions in which they had enrolled as freshmen, which are not necessarily the

same institutional types from which they graduated; therefore, we examined the transfer rates of students to determine whether differences in these rates might partially account for differences in degree attainment. The underlying assumption is that the institutions enrolling higher proportions of freshmen who eventually transfer will register lower degree completion rates, since transfer generally slows down the degree attainment process.

Table B-5 shows the transfer rates of students initially enrolling in the four types of institutions by sex, race, ability, and income. Students who initially enrolled in private four-year colleges were more likely to transfer than were their counterparts in the public sector. On the other hand, the transfer rates of students who enrolled in public and private universities were somewhat similar, except for women: 35 percent of women in private universities but only 28 percent in public universities transferred.

In view of the native student's greater likelihood of earning the baccalaureate in four years, this study may underestimate the degree completion rates of students in private four-year colleges. In other words, the difference in the degree attainment of students in public and in private four year colleges might be larger if only native students were considered. It is also true, however, that except for low-income students the proportion of

transfer students who received the B.A. within four years after college entry was higher among students transferring from private than from public institutions (Table B-6).

Four-Year Colleges

This section excludes universities and concentrates on baccalaureate performance in four-year colleges, first considering differences by race of the institutions (predominantly white, defined as those enrolling 50 percent or more white students; and predominantly black, defined as those enrolling 50 percent or more black students) as well as by sector (public, private), and then looking in greater detail at the degree attainment of students enrolled in four-year colleges, by size and religious affiliation (Catholic, other sectarian, nonsectarian) of the institution.

White and Black Four-Year Colleges. Table B-7 compares the degree completion rates of students in predominantly white and in predominantly black four-year colleges. The total number of students attending each type of institution is bracketed to alert readers to those cases where the number of students is too small for valid generalization (e.g., nonblacks in predominantly black colleges).

Generally, the degree performance of students in white private four-year colleges was superior to that of students in white public four-year colleges, whereas the private-public dimension made very little difference to the degree

attainment of students in black colleges. The exceptions are high-income students and women; both these groups tended to perform better in private than in public black colleges. (We have ignored the difference in the degree attainment of nonblacks in black colleges because of the small number of cases.)

Private Four-Year Colleges. Research findings generally indicate a negative correlation between degree attainment and institutional size: i.e., the larger the school, the less likely the student to get the B.A. within four years after college entry (Astin and Panos, 1969; Holmstrom, 1973a, 1973b, 1973c). Since private colleges are relatively small, averaging about 1,100 students, it is not surprising that the negative impact of size disappears from our analyses so that degree completion rates improved with increasing enrollment size (Figure B-1). The poor record of four-year colleges enrolling fewer than 500 students is probably attributable to the inadequate facilities and limited resources of these colleges.

The only exception in our data to the positive relation between degree performance and size occurred in the 2,000-3,499 enrollment range, where the degree attainment rates, particularly of men and of blacks, consistently dipped below those of the adjacent size categories (Figure B-2 through B-4).

The positive relation between size and degree attain-

ment did not hold for blacks, who tended to perform equally well in very small (below 500) and very large (3,500-4,999) private four-year colleges (Figure B-2).

Figure B-5 through B-7 present data on degree completion of men, women, and blacks in private four-year colleges, by size and religious affiliation of institution. Figure B-5 indicates that men attending nonsectarian institutions contributed heavily to the poor record of students in institutions with enrollments of 2,000-3,499. The degree attainment of men attending institutions classified as "other sectarian" increased rather steadily with size.

Women did considerably better in larger church-affiliated, private four-year colleges than in smaller nonsectarian ones (Figure B-6), whereas blacks did particularly poorly in institutions with enrollments of 2,000-3,499 (Figure B-7).

The dip in the degree attainment rates of students attending four-year colleges in the 2,000 to 3,499 enrollment category is hard to explain. This category includes a number of technical institutions with five-year programs but not enough to account for the poor performance of students, particularly of men and of blacks. Further analyses of dropouts and stopouts, and further information about their reasons, might shed light on this unexpected finding.

Table B-1

Number of Students by Sex, Race, Income, and Ability
In Four-Year Colleges and Universities, by Control
(Based on USOE Classifications)

	Total[a]	Private			Public		
		Universities	4-Year Colls.	Total[a]	Universities	4-Year Colls.	Total[a]
All Students	942,237	82,138	276,046	353,655	304,831	290,471	588,582
Men	514,573	52,928	144,472	194,119	179,202	147,189	320,454
Women	427,664	29,210	131,574	159,536	125,629	143,282	268,128
Nonblacks	868,657	79,915	248,523	323,910	294,686	256,449	544,747
Blacks	73,615	2,223	27,523	29,745	10,145	34,022	43,870
High Ability	579,829	57,239	160,481	215,614	195,754	170,612	364,215
Low Ability	362,415	24,899	115,565	138,041	109,077	119,859	224,374
High Income	546,536	59,798	170,649	228,761	188,236	131,483	317,775
Low Income	395,699	22,340	105,397	124,894	116,595	158,988	270,805

[a] Totals do not add due to weighting.

Table B-2

Baccalaureate Completion in Universities
and Four-Year Colleges by Control of Institution
(In Percentages)

	Total	Private			Public		
		Universities	4-Year Colls.	Total	Universities	4-Year Colls.	Total
All Students	59.1	63.9	62.9	63.8	53.2	58.7	56.2
Men	54.5	62.7	59.2	60.8	48.6	52.3	50.7
Women	64.6	66.2	67.0	67.5	59.8	65.3	62.9
Nonblacks	59.8	64.2	63.6	64.5	53.8	60.0	57.0
Blacks	50.6	56.0	56.7	56.7	35.7	49.4	46.6
High Ability	67.2	71.2	69.5	70.4	62.4	68.3	65.3
Low Ability	46.0	47.3	53.7	53.4	36.9	45.1	41.5
High Income	61.0	67.5	65.3	66.3	55.2	60.3	57.4
Low Income	56.2	54.3	59.0	59.2	50.0	57.4	54.9

Table B-3

Baccalaureate Completion by Sex, Race, Ability and Income in Public and Private Four-Year Institutions

(In Percentages)

	High Income		Low Income	
	Public	Private	Public	Private
High Ability				
Nonblack Women	61.9	73.3	55.0	62.8
Nonblack Men	57.1	70.3	48.7	58.8
Black Women	51.1	75.6	51.0	66.9
Black Men	37.8	50.7	48.1	62.8
Low Ability				
Nonblack Women	30.4	51.9	31.2	43.2
Nonblack Men	32.0	50.6	31.3	42.1
Black Women	22.0	52.8	35.5	53.0
Black Men	27.2	30.8	24.7	43.5

Table B-4

Baccalaureate Completion of Black Students in Private and Public Four-Year Colleges and Universities by Sex, Ability and Income

(In Percentages)

	Private			Public		
	Universities	4-Year Colls.	Total	Universities	4-Year Colls.	Total
High Ability						
High Income Men	56.2	52.1	50.7	46.3	50.8	37.8
High Income Women	70.6	78.8	75.6	74.4	59.0	51.1
Low Income Men	58.2	65.4	62.8	40.8	61.4	48.1
Low Income Women	71.5	67.0	66.9	47.0	66.8	51.0
Low Ability						
High Income Men	52.0	29.4	30.8	31.9	36.9	27.2
High Income Women	59.2	58.6	52.8	20.9	34.1	22.0
Low Income Men	42.2	44.4	43.5	25.1	36.2	24.7
Low Income Women	24.6	55.9	53.0	23.3	50.6	35.5

Table B-5

Proportion of Students Transferring From Public and Private Universities and Four-Year Colleges by Sex, Race, Ability and Income

	Four-Year Colleges		Universities	
	Public	Private	Public	Private
Sex:				
Men	19.6	31.3	27.3	24.7
Women	21.8	40.0	27.6	34.7
Race:				
Nonblack	21.8	36.7	27.5	28.3
Black	12.5	24.1	24.5	24.2
Ability:				
High Ability	21.8	34.3	24.9	27.1
Low Ability	19.2	37.1	31.9	30.8
Income:				
High Income	25.3	39.2	29.4	30.5
Low Income	17.0	29.3	24.1	22.1

Table B-6

Baccalaureate Completion Among Students Transfering From Public and Private Four-Year Colleges and Universities by Sex, Race, Ability and Income

	Four-Year Colleges		Universities	
	Public	Private	Public	Private
Sex:				
Men	40.3	40.9	36.7	45.6
Women	53.1	59.1	47.6	55.1
Race:				
Nonblack	47.4	51.3	41.6	50.2
Black	40.9	42.4	30.5	34.2
Ability:				
High Ability	54.6	59.5	49.7	58.2
Low Ability	34.6	39.3	29.4	32.9
Income:				
High Income	48.0	52.8	42.1	53.1
Low Income	45.7	46.0	39.4	37.9

Table B-7

Baccalaureate Completion by Sex, Race, Ability and Income in Four-Year Colleges by Race and Control of Institution

	PUBLIC			PRIVATE		
	White	Black	Total	White	Black	Total
Men	52.5	46.9	52.1	60.3	44.1	59.2
	(137,520)	(9,665)	(147,185)	(134,962)	(9,489)	(144,451)
Women	66.4	56.5	65.4	67.4	62.8	67.0
	(127,603)	(15,664)	(143,267)	(120,789)	(10,762)	(131,550)
Nonblack	59.9	63.7	59.9	63.6	37.6	63.6
	(254,620)	(1,789)	(256,409)	(248,024)	(317)	(248,341)
Black	43.2	52.2	49.5	62.7	54.5	56.7
	(10,480)	(23,540)	(34,020)	(7,588)	(19,934)	(27,522)
High-income	60.7	42.8	60.1	65.5	51.8	65.2
	127,453)	(4,023)	(131,476)	(165,380)	(5,178)	(170,558)
Low-income	57.8	54.9	57.4	59.7	55.0	59.0
	137,674	(21,306)	(158,980)	(90,321)	(15,072)	(105,393)
High-ability	68.5	64.3	68.3	69.8	65.8	69.5
	(161,209)	(9,372)	(170,581)	(150,874)	(9,513)	(160,386)
Low-ability	44.7	46.5	44.9	54.7	44.0	53.6
	(103,900)	(15,957)	(119,857)	(104,824)	(10,738)	(115,562)

Figure B-1

Baccalaureate Completion Of Men and Women In Predominantly White Private Four-Year Institutions, by Enrollment Size

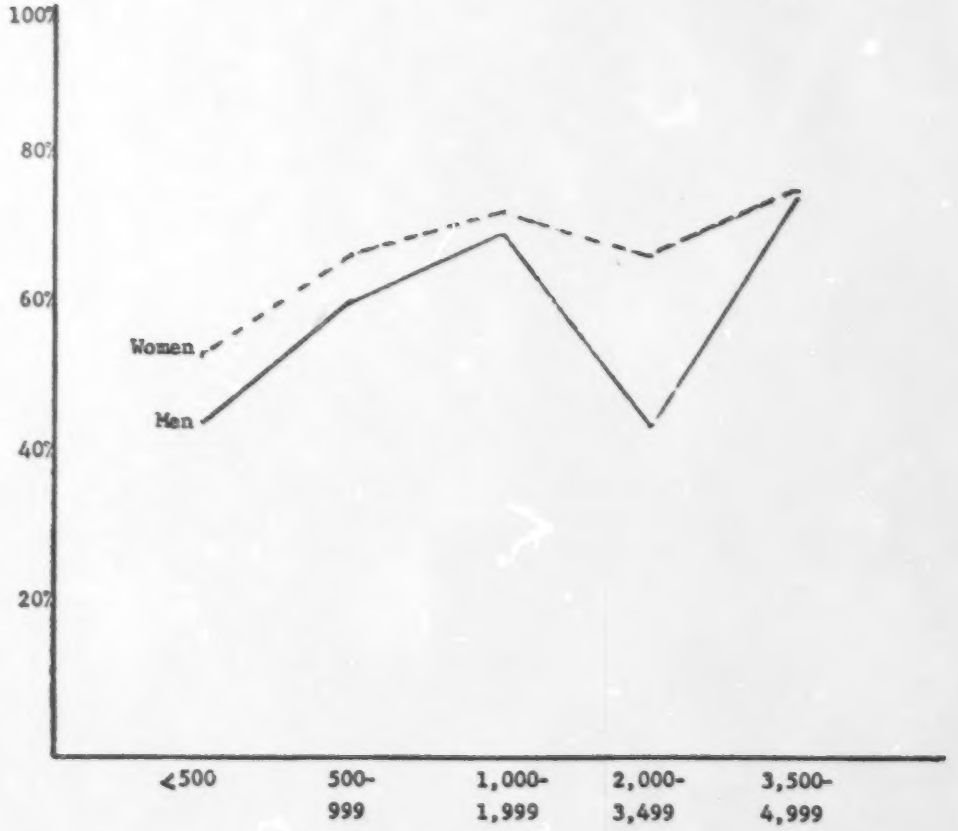


Figure B-2

Baccalaureate Completion of Black and White Students in Predominantly White Private Four-Year Institutions, by Enrollment Size

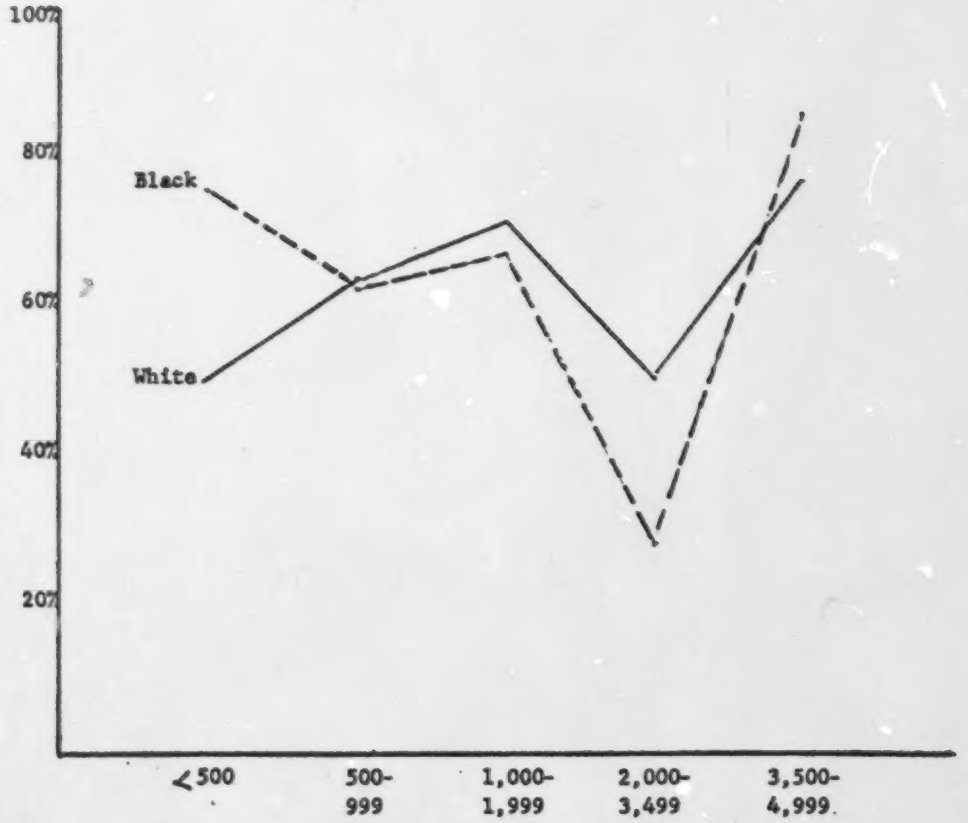
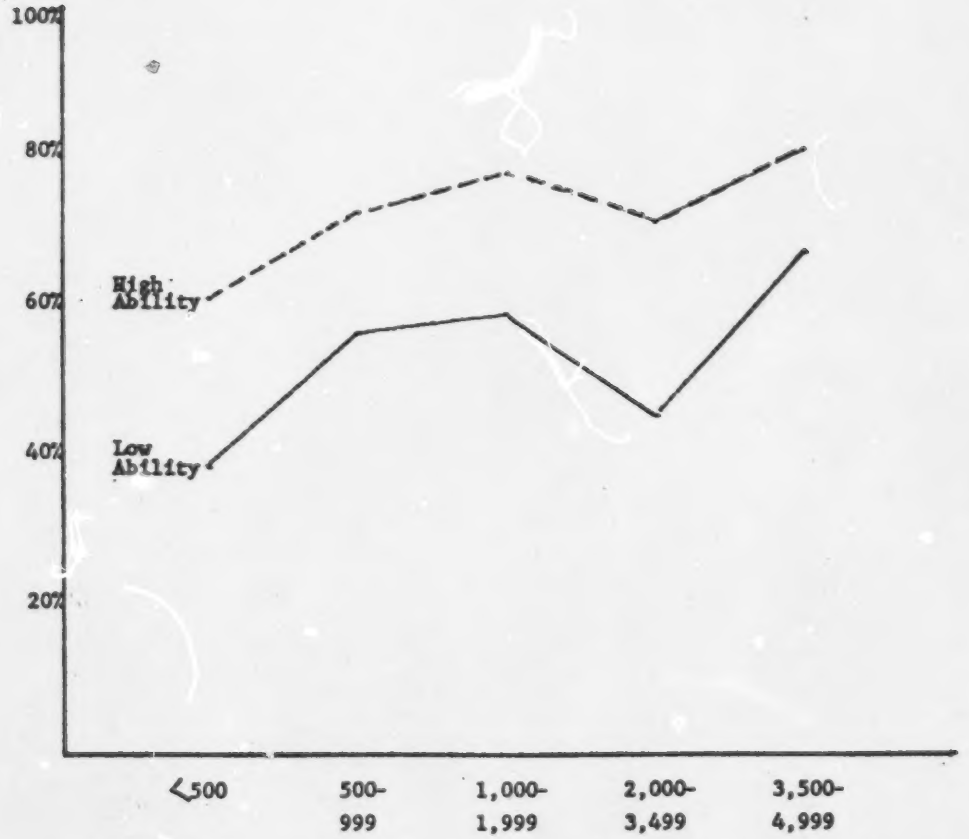


Figure B-3

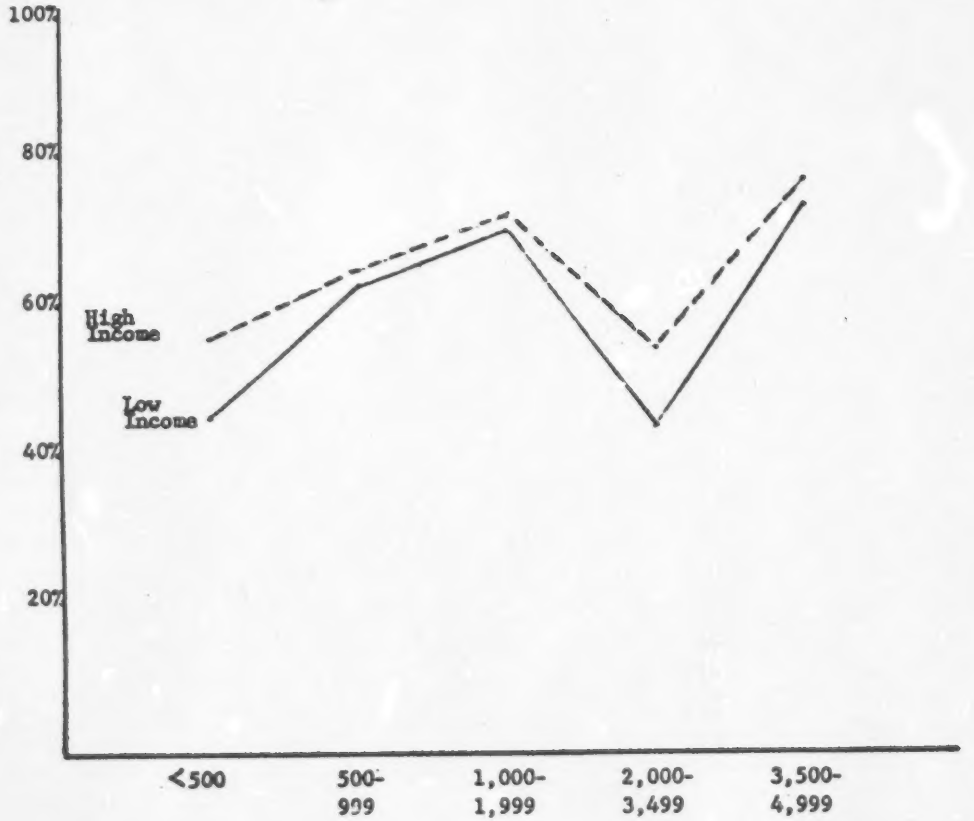
Baccalaureate Completion of High and Low Ability* Students
in Predominantly White Private Four-Year Institutions, by Enrollment Size



*Hi Ability: High School GPA B to A+.
Lo Ability: High School GPA Up to B-.

Figure B-4

Baccalaureate Completion of Low and High Income* Students
in Predominantly White Private Four-Year Institutions, by Enrollment Size



* Hi Income: 1967 Parental Income $10,000 and over.
Lo Income: 1967 Parental Income Up to $9,999

Figure B-5

Baccalaureate Completion of Men Students in Predominantly White Private Four-Year Institutions, by Enrollment Size and Religious Affiliation

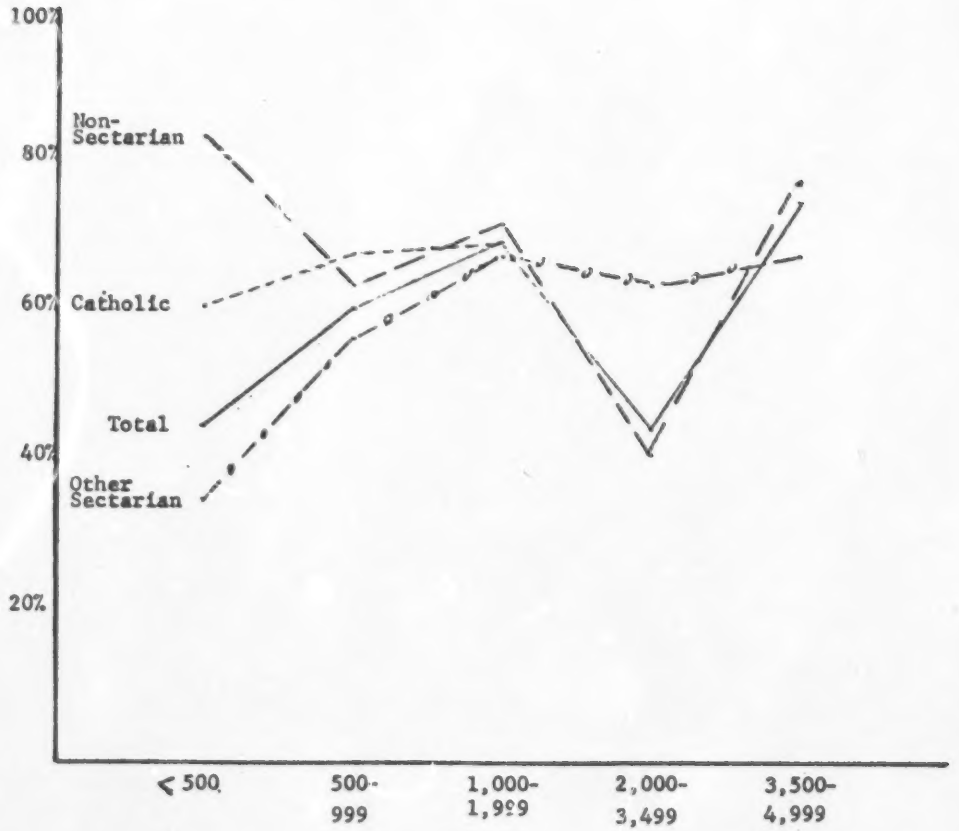


Figure B-6

Baccalaureate Completion of Women in Predominantly White Private Four-Year Institutions, by Enrollment Size and Religious Affiliation

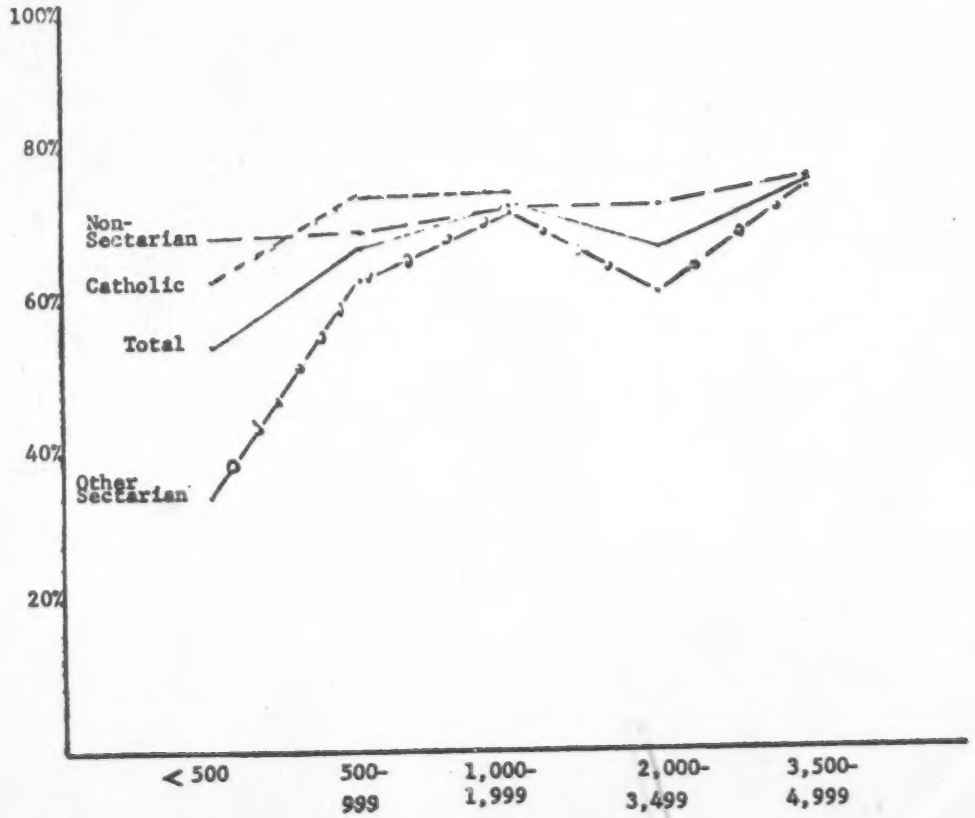


Figure B-7

Baccalaureate Completion of Black Students in Predominantly White Private Four-Year Institutions, by Enrollment, Size and Religious Affiliation